The Croonian Lectures

ON

THE MEANS BY WHICH THE TEMPERATURE OF THE BODY IS MAINTAINED IN HEALTH AND DISEASE.

Delivered before the Royal College of Physicians of London, on June 15th, 17th, 24th, and 29th,

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LECTURE III.[1]

Delivered on June 24th.

MR. PRESIDENT AND GENTLEMEN,—We now pass on to the second method which has been used in the endeavour to find out whether or not in fever the production of heat is increased—namely, calorimetry. The difficulty of the subject is very great, for although many experimenters have worked at it, if any reliable results have been published they are few, and I can well understand this, for I have been working at calorimetry for the last six years and have not yet satisfied myself that a trustworthy instrument has been made.

The calorimeter, which has hitherto been most frequently employed for measuring the heat given off by animals, is the well-known water calorimeter. Such an instrument was described by Crawford in 1788; and after reading the account of his experiments I doubt whether any of his successors have taken more elaborate precautions to ensure the greatest attainable accuracy. Other experimenters who have used water calorimeters are Dulong, Despretz, Senator, Wood, Desplats, Evans, Hare, Ott, Carter, Reichert, and Kemp. One of the most recent patterns of water calorimeter is that used by Reichert. It consists of two concentric boxes of sheet metal, which are fastened together so that there is a space of about one and a half inches between them filled with water. In the inner box the animal is placed, there being a suitable opening through both boxes for this purpose; the opening has an air-tight door. The inner box has leading into it two tubes—one for the entrance of air and the other for its exit. The outer box has a hole in it, through which passes a stirrer to stir the water between the two metal boxes, and another in which is fixed a thermometer to take the temperature of the water. The whole apparatus is surrounded by a thick packing of wool, feathers, or some other non-conductor, so that it is protected as far as possible from the effects of variations in the external temperature. The instrument is standardised before it is used for experiments on animals. This is done by burning in it enough of either hydrogen or alcohol to raise the temperature of the water 1°. It is known how many calories of heat are set free in the combustion of this quantity of hydrogen or alcohol, and therefore it is known that this number of calories is always given off to the instrument when the temperature of the water in it rises 1°. The temperature of the air entering and that of the air leaving the calorimeter is taken, and so any heat given off by the animal and expended in warming the air is estimated. Lastly, the moisture given off by the animal is determined, so that the heat expended in volatilising its aqueous vapour can easily be calculated. All water calorimeters are unreliable, chiefly because, firstly, as I have often found, even with the most careful mixing, it is impossible to get a large mass of water to a uniform temperature, and a slight error as to temperature means an enormous error in the result of the experiment. Secondly, water calorimeters act very slowly. For instance, in some of Senator's experiments at the end of an hour the temperature of the water had only risen 0·2° C., and after this the further rise was trifling. Many observers have not used water calorimeters. In 1780 Lavoisier and Laplace used an ice calorimeter, and Dr. Marcet showed one not long ago at the Physiological Society, but I cannot criticise it as he has not yet published an account of it.

In 1849 Scharling used a form of air calorimeter. Vogel and Hirn each employed instruments very like Scharling's. Rosenthal described an air calorimeter in 1878 and Richet published an account of an air calorimeter in 1885. This was employed by Langlois in 1887, and Mosso used a very similar instrument in 1890. Sapalski and Klebs also used an air calorimeter. The following objections can be urged against all these calorimeters: 1. The calorimeters which have been previously standardised are faulty, for the method employed to standardise is open to considerable sources of error. Thus Richet in standardising his got figures varying from 66 to 91 from which to strike an average, and Langlois obtained figures varying from 59 to 74; and I think, as I shall be able to show, that even where the figures are apparently more satisfactory they are not really of value if the instrument is to be used for animals. 2. Many conditions may not be the same during the standardising as during subsequent experiments. 3. All non-differential calorimeters are open to serious sources of error from the varying influence of the external air in abstracting heat from the instrument. Some experimenters have tried to allow for these and other errors (e.g., that due to variations of barometric pressure), but the correction is a very large percentage of the whole amount of heat produced. 4. In many calorimeters the ventilation is quite inadequate. 5. In some, as Richet's, if for any period during an experiment the production of heat decreases, this decrease is not measured by the instrument. In 1886 D'Arsonval gave an account of several calorimeters, including his differential air calorimeter, which presents evident advantages over those described up to this date. My own apparatus embodies D'Arsonval's principle, but chiefly differs from his differential instrument in that there is a source of heat in both chambers of the calorimeter. Since the publication of this paper by D'Arsonval, and since I began to work at calorimetry, other calorimeters, for the most part modifications of D'Arsonval's differential instrument, have been described by Rosenthal, Ansiaux, and Rubner and his pupils. Calorimeters such as those described by Liebermeister and Leyden, in which a part only of the body is inserted, are obviously unreliable, and so are the attempts made by Liebermeister, Kernig, and Hattwig to estimate the amount of heat produced by a man by immersing him in a water bath.

As differential air calorimeters have been most used, and have appeared to most observers to hold out the greatest promise of utility, I will describe in detail the one I have made. In making it I have derived much help from my friends, Dr. Haldane, Dr. Washbourn, and Mr. F. G. Hopkins. It consists of several parts (see Fig. 1).

The copper chambers.—These are two precisely similar cylindrical chambers made of thin sheet-copper and provided with convex roofs. The inside height of each is 18 in., and the inside diameter is the same. Each chamber has two walls (see diagram—A, A′ and a, a′), between which is an air space 1½ in. across and closed at the bottom by copper. Each chamber is by means of flanges turned out from its outer wall, A, a, firmly screwed on to a strong wooden table which stands on four wooden legs that are fixed to the floor of the laboratory. These legs are about 5 ft. high, so that it is easy with a little stooping to pass under them and open and shut the floor of the chambers. The floor of each chamber is a thick wooden disc (B, b) covered on its upper surface with copper. It is made of several layers of hard, well-seasoned wood, so arranged that it does not warp under variations of temperature and moisture. These two floors are similar in all respects. Each disc has on its upper surface and near its circumference a deep trough (C, c) cut in it all round. The inner wall A′ a′ of the copper chambers is prolonged down into the trough. The trough C, c, in each disc is filled with resin ointment, in which, when the disc is pushed up as far as it will go, the prolongation downwards of the inner wall of the copper chamber is embedded, the chamber being thus closed air-tight. Resin ointment was chosen after many trials of various substances as being the best for rendering the chamber air-tight. Many varieties of screws were tried for keeping the discs in position, but we found that if a deep trough with plenty of resin ointment is used the chambers would keep shut absolutely air-tight for an indefinite time if the discs were kept in place against the wooden casing of the chambers by a simple button. It is very necessary that the parts of the instrument should be so arranged that the bottom of the trough does not, when the disc is pushed home, touch the prolongation of the copper

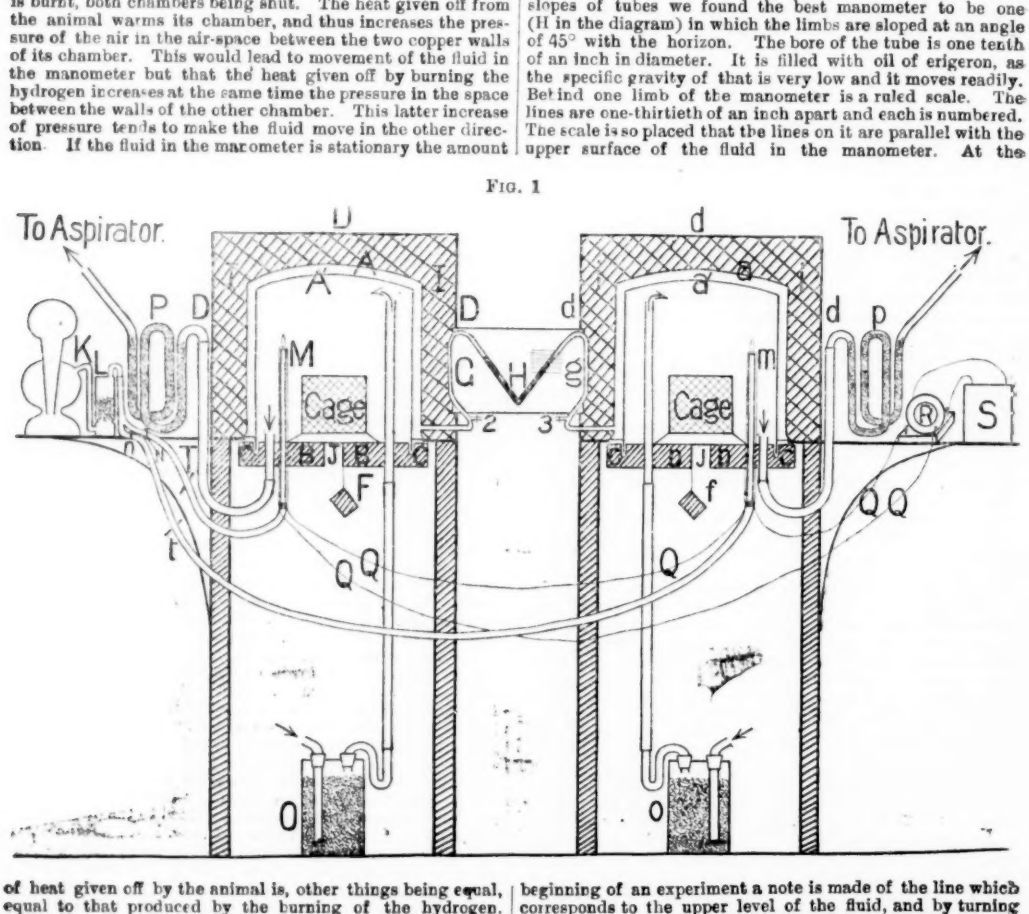
[1] Lectures I. and II. were published in THE LANCET of June 19th and 26th, 1897, respectively.

down into the trough, and that the disc itself presses against the wooden table, and not against the copper air-tight space, for as the copper of which this is made is thin any pressure on it is liable to make the air-tight joints of the air-space between the outer and inner copper walls of each chamber give, and if they are not absolutely air-tight the instrument is quite useless. Leading off from each air-space is an indiarubber tube, G, g. The two rubber tubes are connected with the two limbs of a manometer H.

The calorimeter is used in the following way. In one copper chamber the animal, the heat production of which we require to know, is placed. In the other hydrogen is burnt, both chambers being shut. The heat given off from the animal warms its chamber, and thus increases the pressure of the air in the air-space between the two copper walls of its chamber. This would lead to movement of the fluid in the manometer but that the heat given off by burning the hydrogen increases at the same time the pressure in the space between the walls of the other chamber. This latter increase of pressure tends to make the fluid move in the other direction. If the fluid in the manometer is stationary the amount remained practically stationary unless some source of heat were introduced into one of the chambers. The felt is in the plate marked I, i, and is of the kind used for refrigerators. It is all covered in with the wood casing D, d. There is a small window in the floor of each chamber. It is closed air-tight by a piece of glass, J, j. The object of these windows is that the experimenters may see that the hydrogen flame is burning properly and that the animal is comfortable. During an experiment when the window is not in use it is covered with a thick pad of felt, F, f. We have sometimes used a variety of slag wool instead of felt—it is quite as efficient a non-conductor.

The manometer.—After many trials of different fluids and slopes of tubes we found the best manometer to be one (H in the diagram) in which the limbs are sloped at an angle of 45° with the horizon. The bore of the tube is one tenth of an inch in diameter. It is filled with oil of erigeron, as the specific gravity of that is very low and it moves readily. Behind one limb of the manometer is a ruled scale. The lines are one-thirtieth of an inch apart and each is numbered. The scale is so placed that the lines on it are parallel with the upper surface of the fluid in the manometer. At the

FIG. 1



of heat given off by the animal is, other things being equal, equal to that produced by the burning of the hydrogen. During an experiment the manometer is kept stationary by turning up or down the hydrogen flame. The amount of hydrogen burnt is estimated, and knowing the heat of combustion of hydrogen we can calculate the calories produced by the quantity used in the experiment, which equal those given off by the animal.

The casing.—The knowledge that fluctuations in the temperature and barometric pressure are a most important source of error in many air calorimeters led to our adopting the compensating principle of D'Arsonval, for it is clear that variations of temperature and barometric pressure in the air of the laboratory would affect both air spaces equally and, therefore, not move the fluid in the manometer. We found, however, that temporary draughts, &c., were apt to act somewhat unequally on the two chambers, and thus cause a certain amount of error, which might in extreme cases amount to as much as 0·5 calories per hour. After very many trials we discovered that this difficulty could be obviated by covering the chambers with three layers of felt each an inch thick. When this was done the level of the fluid in the manometer beginning of an experiment a note is made of the line which corresponds to the upper level of the fluid, and by turning the hydrogen up or down the fluid is kept on this line during the whole experiment. The openings 2, 3, which are kept clamped, on the manometer tube are useful; for if at any time the fluid in one limb has from any cause got much higher than that in the other, opening the clamps immediately brings the fluid in the two limbs to the same level.

The hydrogen.—The hydrogen is produced in a Kipp's apparatus, K, and is dried in the bottle L. It will be noticed that there is a hydrogen burner (M, m) in each copper chamber. A great advantage of this is that a control experiment can be done at any time, for if both copper chambers are shut air-tight, and hydrogen is burnt in each, one or other of the two flames being kept at such a height that the fluid in the manometer remains stationary, and it is then found that in the same time the same amount of hydrogen has been burnt in each chamber, it is evident that the instrument is not leaking. Some examples of this mode of control will be given immediately. Another reason for having a hydrogen burner in each copper chamber is that it is important for the fittings of the two chambers to be

similar in all respects, so that those of one may not absorb more heat than those of the other. Therefore, also, there is in the hydrogen chamber a wire cage exactly similar to that used for the animal in the other chamber. The cages have a floor to catch the urine, and feet to raise them from the floor of the chamber and so prevent loss of heat by direct conduction from the animal to the floor of the chamber. The indiarubber tubes which conduct the hydrogen to the burners each pass under a screw clamp N, n, by means of which the size of the hydrogen flame can be very accurately adjusted. The amount of hydrogen burnt is estimated by determining the amount of water produced. This is effected by passing a current of dry air into the calorimeter and estimating the moisture present in the outgoing air. The air entering the chambers is dried by means of Woulff's bottles (O, o), charged with pumice soaked in sulphuric acid. The air leaving the chambers is dried by being passed through the tubes P, p, which are filled with pumice soaked in sulphuric acid. Before the amount of moisture produced by burning the hydrogen in its chamber can be estimated the air in the chamber must be perfectly dry. To ensure this the chamber is shut up air-tight, the hydrogen not being lit, and then air which has been passed through a pumice and sulphuric acid bottle (O, o) is drawn through the chamber until a tube containing pumice and sulphuric acid placed in the outgoing air current no longer increases in weight. Six experiments of this nature showed that in order to completely empty all the moist air out of the chamber, and to replace it by dry air, 300 litres of dry air are required to be passed through. The following are the results of one of these experiments. The gains in weight of the pumice and sulphuric acid in the outgoing air-current after successive portions of dry air had been passed into the chamber are given.

Gain in weight after 92 litres of dry air were passed through	... ...	0·52 grms.
Further gain after 107 additional litres of dry air were passed through	... ...	0·17 ,,
,, ,,	90 ,, ,, ...	0·05 ,,
,, ,,	87 ,, ,, ...	0·00 ,,
,, ,,	90 ,, ,, ...	0·00 ,,

Thus when 92 + 107 + 90 litres had been drawn through the air in the chamber was perfectly dry.

It is of great importance that the inner walls and floor of the chamber should present no hygroscopic surface. For this reason the floor is covered with copper. The employment of a painted surface gave endless trouble in the case of the first calorimeter in which the hydrogen method was employed.

Having dried the closed chamber the next thing is to light the hydrogen in it. This is effected by means of an electric spark. The wires Q, Q, proceeding from, and returning to, an induction coil R, connected with an accumulator S, are so arranged that a spark can be made to pass across the orifice of each hydrogen burner. The air in the chamber being dry a carefully weighed sulphuric acid and pumice tube is placed in the path of the outgoing current of air at P or p, as the case may be, according to which hydrogen burner is being used. The hydrogen is turned on; by passing the spark it is lit; and the aspiration through the chamber which had been stopped to put in the newly weighed bottle is started. The moisture is absorbed by the tube at P or p, as the case may be. In an experiment with an animal, at the time that the hydrogen is lit, the animal in its cage is put in the other copper chamber, which is then shut up, and air is drawn through it to provide for the creature's respiration. In order to make the conditions similar air is drawn through the two chambers at an equal rate, which must be sufficiently rapid to prevent condensation of moisture. During an experiment the hydrogen is kept by means of the screw clamp N or n at such a height that the fluid in the manometer remains stationary. When the experiment has lasted as long as is desired the hydrogen is turned out and the animal is taken out of its chamber. But as the air in the hydrogen chamber now contains moisture, and as we have already shown that to get rid of all the moisture in the chamber 300 litres of previously dried air must be drawn through it, this is done after the hydrogen is turned out. Then the increase in the weight of the tube at P or p will give the amount of moisture produced by the burning hydrogen. Suppose, for example, this were 4 grammes, then $\frac{4}{9}$ grammes = the weight of hydrogen burnt; and as the combustion of 1 gramme of hydrogen produces 34·2 kilogramme calories, $\frac{4}{9} \times 34{\cdot}2$ equals the number of calories produced by the combustion of hydrogen in this experiment. This heat, however, is not all given up to the calorimeter, since the moisture produced is not allowed to condense inside the chamber. The heat of condensation of this moisture is $9 \times 0{\cdot}59 = 5{\cdot}3$ calories for each gramme of hydrogen. Hence the heat given up to the calorimeter is $34{\cdot}2 - 5{\cdot}3 = 28{\cdot}9$ calories per gramme of hydrogen burnt, and this, in the instance we are supposing, multiplied by $\frac{4}{9}$ equals the heat given off by the animal. A calorie is taken to be the amount of heat necessary to raise one kilogramme of water through one degree Centigrade.

For turning out and lighting the hydrogen we found it convenient to have a spring clamp, T, t, on the hydrogen tubes, for then the hydrogen could be lit or turned out instantly; the screw clamp, N, n, is only used for adjusting the flame. It is absolutely necessary to show that the chamber and all the connexions are air-tight after the floor is pushed up at the beginning of an experiment. This is done by closing the inlet tubes to the bottles, O, o, and the hydrogen tubes, and then drawing a little air out of the apparatus and thus producing a negative pressure within, and then ascertaining—by means of the meter or a water manometer if the aspirating vat is used—whether this negative pressure is maintained. It will be noticed that the tube by which air enters the copper chamber is carried up to within an inch of the roof, while the orifice of the outlet tube is nearly flush with the floor. The object of this is to distribute the heat from the flame, and secure that by reflection from the roof the dry air entering the chamber shall be broken up as thoroughly as possible and so mixed with the moisture produced by the combustion of the hydrogen. A point we investigated was how much of the heat given off either by the burning hydrogen or by the animal was lost to the calorimeter, because it warmed the air drawn through the chambers. To determine this accurate thermometers were placed in the ingoing and outgoing currents of air, close to the copper chamber, by being inserted in an air tight opening in the indiarubber tubes. It was found that after the animal had been in place, or the hydrogen had been burning an hour, the temperature of the outgoing air was never more than 0·4° C. higher than that of the ingoing. Now, usually 300 litres—that is to say, 400 grammes—of air were drawn through in an hour. The specific heat of air is 0·23; therefore, to warm 400 grammes of air through 0·4° C. would take $0{\cdot}4 \times 0{\cdot}23 \times 0{\cdot}4 = 0{\cdot}037$ calories. But as a large rabbit gives off about nine calories an hour the heat given off by the animal or hydrogen flame, and not felt by the calorimeter because it is expended in warming the air, is only 0·4 per cent. of the total amount produced by the animal. As this amount is so small and is the same on the two sides of the calorimeter it may safely be neglected.

The instrument I have described to you is not quite the same as that which Dr. Haldane, Dr. Washbourn, and I described in the *Journal of Physiology*, but the principle is the same. The calorimeter of which I have now given an account is one that I made with Mr. Hopkins. It possesses several minor advantages over the instrument described in the *Journal of Physiology*. Its wooden casing is better than a casing of American cloth. The absence of pressure on the copper by the floor is very important, and it saves much trouble to dispense with the old arrangement for screwing the floor into position. It is much easier to ensure an air-tight space by having the window in the floor rather than in the walls of the air-tight space, and it is a great advantage to have the chambers so high from the ground that it is easy to pass under them. In the old instrument both chambers were fixed to one table, which made the whole very cumbersome and unwieldy, but as in the present instrument the manometer board is only on hooks the chambers with their casings are easily separated, the pumice tubes, the Kipp's apparatus, the induction coil, and the accumulator can easily be removed from the flaps on which they stand and the flaps let down. The long legs take off, and so the instrument can be easily moved. Lastly, we used a tube of pumice and sulphuric acid instead of a Woulff's bottle in the outgoing current, as that is easier to weigh.

Now I will bring forward some experiments to show that the instrument is correct in principle. In seven experiments both chambers were shut and shown to be air-tight. It was not necessary to empty them of the moist air they contained, for as both had been left open to the outside air before being shut the air in each contained the same amount of moisture. A sulphuric acid and pumice bottle was put in the path of the entering air and a weighed sulphuric acid and pumice

tube was placed in the path of the air leaving each chamber. The hydrogen was simultaneously lit in both chambers, and the flame was kept in each at such a height that the fluid in the manometer was stationary. Aspiration at an equal rate through each chamber was carried on, and at the end of a given time, usually about an hour, both hydrogen flames were simultaneously turned out. Aspiration was then continued through both the chambers till 300 litres of air had been drawn through each after the hydrogen was turned out. By this means the equal amounts of moisture originally in each chamber and all the water produced by the burning hydrogen in each were absorbed. But as the fluid in the manometer had been kept stationary, or as nearly so as possible, it is clear that if the instrument is efficient equal amounts of hydrogen should have been burnt—that is to say, equal amounts of water should have been produced. Therefore, if the increase of weight of the sulphuric acid and pumice bottles attached to the exit tubes of each chamber was identical the instrument was working satisfactorily. The following table shows the results of these seven experiments (see Table XVIII.).

TABLE XVIII.

Grammes of water produced by hydrogen burning in west chamber.	Grammes of water produced by hydrogen burning in east chamber.	Error per cent.	No. of experiment.
3·93	3·83	3·7	1
4·4	4·32	1·8	2
3·1	3·15	1·5	3
2·04	2·01	1·9	4
1·52	1·52	—	5
3·27	3·37	2·9	6
3·9	3·06	1·9	7

West in excess three times—viz., 3·7, 1·8, and 1·9 per cent.
East in excess three times—viz., 1·5, 2·9, and 1·9 per cent.
West and east equal once.
Average error that the west is in excess 0·17 per cent.

It will be seen that on no occasion was the error greater than 3·7 per cent., and in five out of the seven it was under 2 per cent. The great advantage, as I have already insisted, of these controls in which hydrogen is burnt in both chambers is that as each chamber is fitted with a hydrogen burner a control can be done at any time in the course of a series of animal experiments. As far as I know, no large number of observations on animals have been carried out with such a calorimeter as I have described. I have only done, with the help of some friends, a few on rabbits and guinea-pigs. While the animal is being weighed and its temperature being taken the chamber in which the hydrogen is going to be burnt should be shut up air-tight, and then 300 litres of air, which has previously passed through a pumice and sulphuric acid bottle, should be drawn through it. When this is done the air in it will contain no moisture. A weighed sulphuric acid and pumice tube is then put in the outgoing current of air from the hydrogen chamber. The cage for the animal is then taken out of its chamber, the animal is put in it, and the cage is replaced. The chamber is then shut up, the hydrogen in the other chamber is lit simultaneously, and the flame is kept at such a height that the level of the fluid in the manometer is stationary. An equal quantity of air is drawn through each chamber, care being taken that enough is drawn through to prevent a deposit of moisture in the chamber. At any given moment the animal may be taken out, but at the same moment the hydrogen must be turned out, the aspiration is continued through the hydrogen chamber for 300 litres, so that all the moisture produced by burning the hydrogen is collected in the exit sulphuric acid and pumice bottle. The latter is then weighed, and from the increase of weight we can easily calculate the number of calories given off by the burning hydrogen to the calorimeter, which must, as the manometer has been kept steady, equal the number of calories given off by the animal to the calorimeter. The following are the details of an actual experiment:—

	Grms.
Weight of sulphuric acid and pumice tube at exit of hydrogen chamber before experiment	3603·34
Weight of sulphuric acid and pumice tube at exit of hydrogen chamber after experiment	3607·32
Water produced by hydrogen flame =	1·58

$$\text{Hydrogen burnt} = \frac{1{\cdot}58}{9} = 0{\cdot}176 \text{ grammes.}$$

Calories produced in the chamber = 28·9 × 0·176 = 5·08 grammes.

The time the hydrogen was burning—that is to say, the time the animal was in its chamber of the calorimeter—was exactly one hour, so that the creature gave up to the calorimeter 5·08 calories per hour. The following are the results of four experiments made upon different days upon the same animal, a healthy brown male rabbit weighing 3080 grammes. The rectal temperature was always taken before and after the experiment (see Table XIX.).

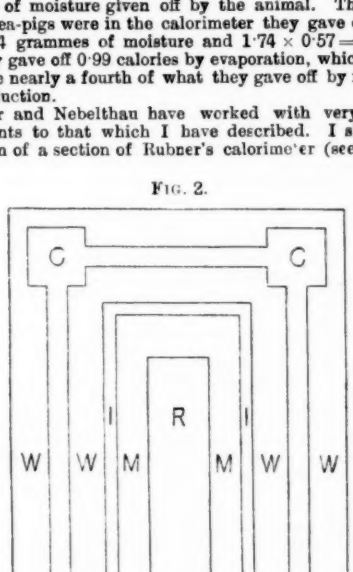
TABLE XIX.

Calories given off per hour by the rabbit to the calorimeter.	Number of experiment.
7·37	2
6·89	4
6·64	1
5·08	3

Now these figures do not represent all the heat given off by the animal. I have already shown that the heat expended in warming the air drawn through the apparatus may be neglected, but that which is employed in volatilising the aqueous vapour given off from the animal is not included. The quantity of this aqueous vapour is determined by means of a pumice and sulphuric acid tube in the path of the air coming from the exit of animal chamber. The heat required to evaporate a gramme of water at the temperature of the rabbit is a known constant (0·57 calorie), so that the heat expended by the animal in volatilising aqueous vapour can easily be obtained by multiplying 0·57 by the number of grammes of moisture given off by the animal. Thus when two guinea-pigs were in the calorimeter they gave off in an hour 1·74 grammes of moisture and 1·74 × 0·57 = 0·99, so that they gave off 0·99 calories by evaporation, which turned out to be nearly a fourth of what they gave off by radiation and conduction.

Rubner and Nebelthau have worked with very similar instruments to that which I have described. I show you a diagram of a section of Rubner's calorimeter (see Fig. 2).

FIG. 2.



It consists of a copper chamber R, in which the animal is placed; the chamber is closed by a non-conducting air-tight door. The copper chamber R is surrounded by an air space M, M, just as the copper chamber in the calorimeter I first described is surrounded by an air space; the air in this space, M, M, is warmed by the animal, and as it expands it moves the dial of a registering apparatus, with which M, M, is connected by a tube. (This is not shown in the diagram.) I, I, is an air space closed on all sides by copper. The object of it is to surround the calorimeter with a good non-conductor, such as air. The whole is surrounded by a vessel containing a quantity of water, W, W, W. This also is

to prevent the variations of external temperature from influencing the calorimeter. This mass of water is automatically kept at a constant temperature, for there is a gas flame under it, and if it gets too warm more cold water automatically flows in from a tap and replaces some warm water which automatically flows away. I need not bother you with the details of this arrangement. The registering apparatus is under the influence of variations in barometric pressure, and therefore there is a very irregularly shaped copper chamber, C, C, C, in the water W, W, W. This copper chamber is connected with a separate registering apparatus of its own and shows variations in the barometric pressure, and these are allowed for when calculating the heat given off by the animal by observing the registering apparatus connected with the air space, M, M. Of course, the animal chamber is ventilated. The apparatus is standardised by placing a spirally coiled tube in the animal chamber, letting warm water flow through the coil for a given time, and at the same time observing the movement of the registering dial connected with the air space around the animal chamber. The temperature of the water is taken before it enters and after it leaves the coil, and from these data it is easy to determine that the loss of so many calories of heat by the water corresponds to the movement of the hand of the registering dial through a certain distance. The ventilation of the animal chamber goes on during the experimental standardising of the instrument just as it would if an animal were in it, and the loss of heat from the water in the coil to the air drawn through is allowed for by taking the temperature of the air as it enters and as it leaves the chamber. It is impossible to take the temperature of the water immediately before it enters the coil or immediately it leaves it, for the tubes leading to and from the coil must pass through the water W, W, W, the air space I, and the air space M, before they can reach the coil. By preliminary experiments allowance is made for this. Now it appears to me that the disadvantages of this instrument are:—1. If there is any error in the original standardising all the results obtained with the instrument are wrong. 2. As allowances are made in the original standardising there may well be some errors in it. 3. Any variation in the temperature of the water jacket will seriously affect the results, and it is a very difficult matter to keep a large mass of water at a constant temperature for a long time. 4. In every experiment all the conditions ought to be the same as during the standardising, but with this instrument this is impossible. 5. In every experiment allowance has to be made for variations in the barometric pressure. It will hardly be disputed that an instrument which avoids all these possible fallacies is more likely to be accurate than one which does not, and therefore I cannot help thinking that the differential instrument I first described can be made to give more reliable results. Further, in general, the differential method is superior to that of primary standardising.

Nebelthau has worked with an instrument which is in principle the same as Rubner's, as it is an air calorimeter, and is standardised before it is used for an animal. It differs chiefly in that the chamber which shows the allowance to be made for variations of barometric pressure is quite detached from the animal chamber. We saw when I was describing the calorimeter I have made that if we want to calculate the whole heat produced by the animal we must include that which does not affect the calorimeter, but is employed in volatilising the water given off in the animal's breath. It is therefore necessary always to estimate the amount of aqueous vapour given off by the animal. This Nebelthau does with a hair hygrometer. I cannot help thinking that this is not so reliable a method as that of absorbing the water with sulphuric acid and pumice, and inasmuch as the heat lost in this way may be a fourth of that produced by the animal it is clear that it is of the utmost importance to estimate it accurately. Nebelthau has made a series of most laborious experiments. He has considered the influence of season, of time of day, of rapidity of ventilation, of moisture in the air, and of the size of the animal upon the heat production; I cannot for want of time stop now to consider the results he obtained, but must pass on to his experiments on fever. He used rabbits and produced fever in them by the injection of cultures of swine erysipelas. He estimated the heat production before and after the injection, and from the results obtained drew conclusions as to the production of heat in fever. He rightly points out the great importance of having the air entering the animal chamber of the same temperature during all the experiments on the same animal, for if it is not some of the variations in the creature's heat production may be due to the variation of the temperature of the air around it. If the air is not of the same temperature Nebelthau following Rubner makes a correction of 2·5 per cent. of the total heat lost for each degree of variation in the temperature. It is clear that if in any fever the rise of temperature were slight, the correction for variations of external temperature might bear a considerable ratio to the alteration in the loss of production of heat due to the fever, and, further, although no doubt the figure 2·5 per cent. was obtained from very careful experiments it is in the present state of our knowledge only an assumption that the figure is the same for all members of the same species. For these reasons I cannot help thinking that it would be better instead of making this correction to ensure that the temperature of the air, and, if possible, its humidity, were the same, at least during all experiments on the same animal. Nebelthau's results are far too voluminous to give in full, but I show you two of them:—

TABLE XX.

Number of animal.	Weight.	Day.	Temperature of rabbit.	Calories. Loss of heat by evaporation.	Loss by radiation and conduction.	Total.	Warmth lost per kilogramme per hour.	Per cent.
	Grms.		Deg. C.					
4	1703	1	39·0	17·75	91·93	109·68	2·683	100
	1625	2	41·7	19·17	109·29	128·46	3·294	122
	1545	3	40·5	18·08	113·64	131·72	3·544	132
7	2327	1	38·6	17·33	105·62	122·95	2·201	100
	2229	2	40·7	20·62	104·32	124·94	2·335	106
	2139	3	40·7	22·52	118·96	141·48	2·756	125

The first point to which he properly directs attention is that no air calorimeter really represents how much heat the animal produces. Air calorimeters are merely large air thermometers which are carefully protected from outside influences, so that any expansion of the air in them must be due to heat given off from the animal, and the amount of this heat lost by the animal is known either because the instrument has been previously standardised in calories by cooling water or because it can be estimated in calories from the hydrogen burnt in the opposite chamber. To obtain in calories the increased heat produced by the fevered animal in a given time (say, an hour) we must know its weight, the rise of its temperature, and its specific heat. (Nebelthau puts this at 0·8, which is, I think, a little too low; 0·95 is probably more accurate.) For instance, to take the first experiment I have quoted, the mean weight of the animal between the first and second days was the mean between 1703 grammes, its weight on the first day, and 1625 grammes, its weight on the second day; that is, 1·664 kilogrammes. Now, the temperature of an animal of a weight of 1·664 kilogrammes and of a specific heat of 0·95 rose 2·7°; therefore, if the loss of heat were unaltered, it must, to have raised its temperature 2·7°, have increased its heat production by 1·664 + 2·7 + 0·95 = 4·268 calories; but we see from the table that from the first to the second day its heat loss to the instrument was increased from 2·683 to 3·294—that is, 0·611 calories per kilogramme of its body weight per hour. Therefore, its heat production must have increased not only the 4·268 calories necessary to raise its temperature from 39·0° to 41·7°, but also enough to compensate for an increased loss in calories equal to 0·611 kilogramme per hour.

Those of you who have followed me so far may be inclined to say that while it appears there are many sources of error to be guarded against if a calorimeter which has been previously standardised is used, yet if the differential calorimeter with hydrogen in one chamber and the animal in another be used, if the temperature and humidity of the air during all experiments on the same animal are the same, and if an accurate means of estimating moisture be employed, we ought to be able to find out from such a calorimeter whether or not the heat production is increased. I am afraid, however, that I must show you that the difficulties of the subject are not yet

ended. The first difficulty we can see by looking at the table I have shown you of some figures obtained by Nebelthau. You will see that in the case of the first animal on the third day it was 30 grammes lighter and its temperature was 1·2° lower than on the second day. Either of these facts would constitute a reason why the creature should give off fewer calories on the third day than the second, but, as a matter of fact, it gave off more. Again, the second animal was on the third day 90 grammes lighter than on the second, and its temperature was the same on both days, yet when it was lighter it gave out considerably more calories than when it was heavier. Now all the instrument does is that it estimates the heat loss by radiation and conduction, because a mass of cooling water in losing a certain number of calories moved the indicator of the recording instrument through a given distance. But the water was losing heat uniformly, and it would be impossible for a mass of water which had decreased in weight and the temperature of which had fallen to give off more calories by radiation and conduction than it did before its weight had diminished or its temperature had fallen. Clearly, therefore, we are not comparing similar processes when we infer the amount of loss of heat from an animal because it moves the registering apparatus of an instrument standardised by cooling water. We cannot tell whether the first animal, for instance, was on the third day, by having altered its power of radiation and conduction, losing heat more rapidly, the production being the same, or losing it still more rapidly with an increased production. The falling temperature at first sight looks like a diminished production, but on the other hand, the increased radiating power points in the direction of an increased production. It is true that when, as in the contrast between the first two days in each animal, the temperature rises and the loss also increases, the production of heat must be increased, but we cannot even then say whether the increased loss of heat is due solely to an increased production, the radiating power of the animal remaining the same, or an increase of both, but the increase of the production being relatively greater, for in either case the number of calories lost would be greater and the temperature of the animal would rise. I am afraid this criticism applies equally to the calorimeter with double chambers, hydrogen being burnt in one and the animal placed in the other. The fallacy is essentially the same in both—namely, we are taking as a standard in both a source of heat (a hydrogen flame or a mass of cooling water) the loss by radiation and conduction from which is dependent solely upon the amount of heat in it, but the animal has the power of automatically altering its radiating and conducting power quite independently of the amount of heat in it, and also has the power of varying from time to time the rate of production of heat in it. These calorimeters measure the amount of heat lost; but as the animal can vary both the rate of production and rate of loss we cannot with them determine quantitatively the variation of production, and this is exactly the problem to be solved in fever. It is true, as I have shown, that we can get qualitative results, and often, as furry animals do not vary much in their powers of radiation and conduction, we can get rough quantitative results; but as man can by vascular dilatation and sweating vary his power of loss by radiation, conduction, and evaporation so enormously, we must be extremely careful how we apply results obtained from calorimetric experiments on furry animals to man.

The next difficulty I have to consider is that due to convection currents. When Mr. Hopkins and I were working at calorimetry we thought the instrument would be more easy to manage if it were so made that the top of it, rather than the bottom, took off, for then the weight of the lid would help to keep it well down in the grease trough. We therefore made such an instrument and suspended the animal from the lid. The hydrogen burners and the inlet and outlet tubes all came through the lid, and the hydrogen burners were so turned up as to make the flame turn upwards. Except for these alterations the instrument was precisely the same as I have already described, but of course it follows that there was no air-space at the top, for the lid contains no air-space; on the other hand, there was an air-space at the bottom. I should add that the position of the animal cages and hydrogen flames relative to the walls of the chamber was precisely the same when the lid was at the top as when it was at the bottom. We at once noticed that the instrument was not nearly so delicate when there was no air-space at the top as when there was one there. It was quite clear, therefore, that we had to deal with some factor, besides radiation and conduction, which influenced the instrument, and this could only have been convection currents. We next turned the instrument back again to its original position with the lids at the bottom, and we found that if a rabbit was in one chamber and no hydrogen burning in the other the manometer moved readily, and also if hydrogen was burnt in one chamber and there was no animal or other source of heat in the other it also moved readily. Further, if hydrogen was burning in one chamber and a rabbit was placed in the other, and the hydrogen flame was kept at such a height that it exactly balanced the rabbit for a few minutes, during which no air current passed through either chamber, and then an equal current of air was drawn through each chamber, then the hydrogen had to be turned up at least 30 per cent. before a balance could be again obtained, and this although no condensation of water due to the burning hydrogen had taken place. This clearly shows that the convection currents from the rabbit and the hydrogen flame are affected unequally by an equal current of air passing through each chamber. It is certain, therefore, that convection currents are a very important factor, and they are different from a minute point like a hydrogen flame, and a considerable surface like a rabbit's body; that this is so anyone can prove for himself by noticing the difference between the feeling of warmth he experiences when he holds his hand over a hydrogen flame and that which he experiences when he holds it the same distance over a rabbit, although the two about balance one another. The importance of convection is also seen by noticing how much hotter a hydrogen flame feels when the hand is held above it than it does when the hand is held equally far off it but at the side of it, although in both cases the radiant and conducted heat is the same, but the hand in the first case meets with more convection currents. This last observation corresponds to that in which we noticed that the instrument is so much more sensitive when the lid is at the bottom and the top is part of the air space "an it is when the lid which contains no air space is at the top. When we first began making a calorimeter we tested its accuracy by putting a corked flask of cooling water of a temperature of from 40° to 50° C., but different at each experiment, on cork supports in one chamber and keeping the manometer steady by burning hydrogen in the other, both chambers being shut, and an equal air current drawn through each. When the water was taken out of the chamber its bulk was measured, and its bulk in litres at this temperature multiplied by $\frac{99}{100}$ gave its bulk at 4° C.—that is to say, its weight in grammes. Its weight in kilogrammes, multiplied by the number of degrees Centigrade through which the water had cooled, gave the number of calories given off by it, and this, together with the small quantity of heat given off by the cooling of the glass of the flask, represents approximately the heat given off by the water to its chamber of the calorimeter. To obtain an exact measure of this heat corrections would have to be made for the specific heat of water at from 40° to 45° and for the period (in all, about a minute) which elapsed between the time of reading the temperature of the flask and the time when it was placed in or removed from the chamber. The latter correction, which is small, and a correction for the loss of heat from the glass of the flask were made, but the values given by recent observers for the specific heat of water at about 40° vary from 0·98 to 1·04, a difference of 6 per cent. We were, therefore, unable to make an exact comparison in absolute units between the number of calories given off by the flask and its water and those given off by the hydrogen flame. The following table shows the results of the six experiments (see Table XXI.).

TABLE XXI.

No. of experiment.	Number of calories produced by burning of hydrogen.	Number of calories given off by the flask.	Percentage excess on the part of the flask.
1	16·6	17·7	6·6
2	13·2	14·3	8·3
3	12·8	13·4	4·7
4	14·1	15·1	7·1
5	14·7	15·8	7·5
	14·2	15·3	7·

It will be seen that there is a considerable error. At the time these experiments were made we were inclined to the opinion that the cause of this error lay in the fallacies just mentioned, but having since learned the importance of convection currents I cannot help thinking that a considerable part of the error was in each case due to the fact that the convection currents from the hydrogen flame and the water were different. I think there is no doubt, therefore, that because the convection currents from the hydrogen and animal are so different, because they are affected unequally by ventilation currents, and because so much of the effect of a source of heat on the calorimeter is the result of convection, no instrument is satisfactory which does not provide against the errors which may arise from unequal convection currents. I have already shown that the air drawn through the instrument is heated so little, and warmed air gives up its heat so slowly, that I do not think the difficulty would be satisfactorily met by taking the air, leaving the chamber through a spiral tube winding round in the air space connected with the manometer. The error due to convection is probably much less in Rubner's or Nebelthau's instrument than in mine, for it is likely that the convection currents from a spiral coil of warm water are much more like those from an animal than are those from a hydrogen flame, but it would make their instruments more trustworthy if they had been standardised with a coil of water the shape of the animal about to be experimented upon.

To sum up, I think we may conclude by saying:—1. No animal calorimeter that holds out any prospect of being workable can give exactly the amount of heat produced by an animal, for when it shows an alteration in the number of calories lost it does not show what proportion of them have been lost because the creature's radiating power has been altered, andwhat proportion have been lost because the production has varied, but if we know the variation in the internal temperature of the animal, its weight and its specific heat, we can often say whether or not the production of heat is increased or diminished. In other words, we can get a qualitative but not an accurate quantitative result. 2. As in man alterations of loss of heat probably depend sometimes almost entirely on variation of production, and at other times almost entirely on variations in radiating and conducting power of the skin, we must be very careful in drawing conclusions from animals to man. 3. A differential instrument is very much better than one which has been standardised. 4. But the source of heat in the differential instrument must in shape resemble the animal which is to be observed, and the instrument, before the results it yields can be trusted, be proved to register equally on both sides heat lost by radiation, conduction, and convection. I think it follows that no instrument has yet been devised which gives trustworthy results. I need hardly add that I say this with great regret, for I have for the last six years devoted all my spare time to calorimetry.

Before leaving this subject I should like to remind my hearers of two facts that are frequently lost sight of. The first is that we are too apt to talk of fever as though the process were the same whatever the cause of the fever, while really (as I have shown in the case of man) it is extremely probable that with all animals in some fevers the rise of temperature is chiefly due to variations in the production of heat, and in others it is chiefly due to variations in the loss, and any set of experiments only holds good for the particular animal and for the particular fever under consideration. Secondly, no calorimeter can register heat which is in the body converted into some other form of energy—e.g., motion. For instance, if we were to light a fire in a little locomotive and set it running up a spiral in our calorimeter, the instrument would only register such of the heat as is lost from the locomotive by radiation, conduction, and convection—it would not show that which was produced in the engine but at once converted into motion. If any heat in the living body is converted into motion we have no means of estimating it.

Many attempts have been made to make calorimetrical observations on parts of the human body, and as a rule the results are of little value; but lately Rumpel [2] has published some results which are so very interesting that it will be well to give an account of them. His experiments were all carried out on an arm placed in an air calorimeter for it. From what I have already said it follows that I do not think the results have more than a rough quantitative value. Rumpel shows, by putting first the clothed and then the unclothed arm in the calorimeter, that the loss of heat is greatly diminished by clothing, and he says that Rubner, working with a thermopile, has shown that if the radiation of heat from the naked skin be taken at 100, with a vest on it is 73; shirt and vest, 60; waistcoat, shirt, and vest, 46; and coat, waistcoat, shirt, and vest, 33; and if a guinea-pig's hair is cut off its loss of heat increases 33 per cent. In the first series of experiments a contrast was made between the arm clothed with dry clothes, that clothed with wet clothes, and the naked arm. Table XXII. shows the results.

TABLE XXII.

No. of experiment.	Naked arm gives off calories per hour.	Arm clothed with two layers of dry flannel gives off calories per hour.	Arm clothed with two layers of wet flannel gives off calories per hour.
1	7·92	4·25	—
2	7·41	—	7·45
3	8·39	—	7·96

These figures strikingly confirm the well-known fact that wet clothing is of no use in keeping the body warm. Indeed, it is worse than no clothing at all, for, in addition to the loss by radiation, there is the loss of heat from the evaporation of the water in the wet flannel, which in each of the above two cases was 15 calories, so that the total loss of heat was in the second experiment 7·45 + 15 = 22·45; and in the third experiment it was 7·96 + 15 = 22·96. The arm lost, therefore, when covered with wet clothing about three times as much heat as it would have done if it had been naked. The next experiments proved that the loss of heat in water is much greater than that in air at the same temperature (Table XXIII.).

TABLE XXIII.

Temperature of air or water Centigrade.	Calories lost per hour when the arm is naked in water.	Calories lost per hour when the arm is naked in air.	Calories lost per hour when the arm is clothed but in air.
Deg.			
11·5	157·0	12·5	8·4
16·2	103·0	10·9	7·6
20·9	81·0	7·8	5·6
24·7	54·0	7·9	5·0

If to the figures representing the loss of heat to the air we add the loss which is due to the evaporation of the perspiration it works out that at least eight times as much heat is lost in cold water as in air. As might be expected, cold water is worse than wet clothes. In one experiment in which the arm was clothed in wet clothes of a temperature of 20·6° C. the loss per hour was 29·8 calories, but in a bath of a temperature of 20·9° C. the loss per hour was 81 calories. The next table that I should like to quote shows in figures what is, I think, a well-acknowledged fact—namely, that the lower the temperature of the air the more valuable is clothing in saving heat (Table XXIV.). Another interesting table illustrates very well that the addition of clothes diminishes the loss of heat (Table XXV.). It will be noticed that a linen

TABLE XXIV.

Temperature of air Centigrade.	Calories given off per hour from the unclothed arm.	Calories given off per hour from the clothed arm.	Difference.
Deg.			
6·6	14·27	10·69	3·58
10·6	12·84	8·64	4·20
15·8	11·05	7·69	3·36
20·8	7·79	5·59	2·20
23·6	4·92	4·23	0·69

[2] Ueber den Werth der Bekleidung und ihre Rolle bei der Warmeregulation, Archiv für Hygiene, Band 9, S. 51.

TABLE XXV.

Temperature of air C.	Naked arm lost calories per hour.	Arm clothed with wool vest and glove lost per hour.	Plus another wool vest.	Plus a linen vest.	Plus a coat.	Plus an overcoat.
Deg.						
15·5	9·71	8·73	—	—	—	—
16·7	9·30	—	8·18	—	—	—
15·9	10·0	—	—	8·18	—	—
15·8	10·2	—	—	—	6·89	—
15·2	—	—	—	—	—	6·81

vest is of no use in saving warmth. The last table that I shall quote illustrates that the same person may vary considerably at different times (Table XXVI.).

TABLE XXVI.

No.	Temperature of air Centigrade.	Naked arm gave off calories per hour.	Clothed arm gave off calories per hour.	Difference.
	Deg.			
1. Frau G.	21·3	7·41	4·68	2·73
Ditto	20·3	6·57	3·97	2·60
2. Frau D.	19·2	6·54	4·65	1·89
Ditto	18·1	7·41	4·65	2·76

CASE OF INTESTINAL OBSTRUCTION COMPLICATED WITH MALPOSITION, APPARENTLY CONGENITAL, OF THE COLON.[1]

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A WOMAN, aged thirty-nine years, was admitted into the New Hospital under the care of Miss Walker, M.D. Brux., on Oct. 27th, 1896, complaining of pain in the epigastrium immediately on taking food, followed and relieved by vomiting, constipation and tenesmus with the occasional passage of a small amount of blood, and marked loss of flesh and strength for the last few months. The patient had suffered for six years from indigestion, and for four years had eaten no solid food without pain. For these symptoms she was under treatment at the London Hospital for a period of three months, and in the out-patient department of the New Hospital on two separate occasions. She had been distinctly relieved by treatment, but had relapsed. On admission it was noted in addition that the abdomen was distended and the movements of the colon were plainly visible, there was marked tenderness in the epigastrium, and the respirations were almost entirely abdominal. The patient was put on Salisbury diet without medicine or aperients, and improved very markedly. She took the diet well and ceased to vomit. The bowels acted either spontaneously or by enema. The diet was strictly adhered to up to Nov. 16th, when she had lost weight. It was then modified, and pounded rice and cream were added. On Nov. 25th she had gained weight again, and was so much better and more comfortable in every way that she was allowed to sit up and gradually to resume a less restricted diet in preparation for shortly going out. On Dec. 2nd she was given for dinner a mutton chop, rice pudding, baked apple, and bread. This was followed almost at once by severe pain and much distress, apparently from distension. By 10 P.M. the abdomen was distended and drum like and the patient was still in great pain. There was no fever. Carminatives were given. On the 3rd the abdomen was a little less distended, but there was still a good deal of abdominal pain. The bowels were open. The temperature was 99·4 F. and the pulse 120. The abdomen moved imperfectly with respiration. On the 5th the patient looked very ill, with drawn and pinched face. The abdomen was unequally distended, chiefly on the right side. She was sick three times, there being typical "coffee-ground" vomit. The bowels were not open and no flatus passed per rectum. The temperature rose to 100 and the pulse ranged between 120 and 130. Rectal feeding was commenced and one eighth of a grain of morphia was given hypodermically. On the 6th the patient vomited once (vomit of the same character) after the rectal feeding was begun. The tongue was cleaner, the pulse was better (108), and the temperature was 99·4°. On the 7th the patient had a bad night with much pain; she was sick once, the vomit consisting chiefly of mucus with a little brown sediment. I was asked to see the patient in Miss Walker's absence, and found the abdomen distended unequally, and chiefly over the seat of the cæcum, as before; moving badly with respiration. Just above the umbilicus, to the right of the mid-line, on fairly deep palpation between coils of distended intestine a distinct firm mass was felt. This was said not to have been palpable previously. There was no mass in the cæcal region, although the distension was so marked there. I inclined to the diagnosis of a gastric ulcer of the posterior wall, which had perforated into a localised area walled in by adhesions, although this did not account for the cæcal distension, unless the transverse colon were involved in inflammatory matting. Another alternative seemed to be some growth deep in the abdomen involving primarily or secondarily the right half of the transverse colon and partially obstructing it. Hot fomentations were applied to the abdomen and a simple enema was given with no result in either fæces or flatus. Nutrient enemata with brandy were administered. The temperature ranged between 98·4° and 99·2° and the pulse between 108 and 120. On the 8th she seemed a little better and passed some flatus. The abdomen was still much distended in the cæcal region and noticeably flattened in the epigastrium. The temperature ranged from 98·6° to 100° and the pulse from 92 to 108. On the 9th she had much pain through the night. The bowels were open and flatus was passed, but the distension was more general. There was no further sickness. I was again asked to see the patient. There was now clearly to be outlined a rounded mass on a level with, and rather to the right of, the umbilicus, dull to deep percussion, fixed and not tender. On the 11th she was given small quantities of food by the mouth without causing sickness. The abdomen was much distended. The pulse was 120 and less good in quality, and the temperature was below 100°. As she was certainly losing rather than gaining ground Mr. Boyd was asked to see her in consultation. He considered that whether she had a gastric ulcer or not the great distension of cæcum and small intestine indicated obstruction somewhere in the colon, probably about the hepatic flexure, and advised an exploratory incision. The patient was therefore transferred to my care for operation the following morning. She had a better night, and the temperature had fallen from 100·4° to 98·4° in twenty-four hours. On the morning of the 12th the temperature was 97·6° and the pulse was 92°. She had a loose, normal-looking action of the bowels. It had been intended to photograph the abdomen on account of the peculiar and marked distension of the cæcum; but when the patient was placed on the operating table this had so far disappeared as to leave nothing but a moderate general distension. Mrs. Berry, M.D. Lond., gave gas and ether, and I opened the abdomen in the mid-line above the umbilicus. The small intestine, deeply injected and distended, at once presented. There was no exudation. On introducing the hand a tight arch was felt towards the right side, from beneath which was withdrawn a short length of collapsed small intestine absolutely pale from compression, and not more than half an inch in diameter. The mass felt before operation was found to consist of much thickened mesentery in which enlarged glands were felt. The bowel corresponding to this thickened mesentery was drawn out of the abdomen on to hot sterilised towels and carefully examined for growth or ulceration. So far as could be made out it appeared healthy

[1] A paper read before the Association of Registered Medical Women on March 2nd, 1897.

though deeply congested. The cæcum was examined and no marked distension was found. The liver was discovered to be pushed up under the diaphragm by the distended intestines and the stomach was completely covered by them. At this point the patient's condition was such that no further search for any primary focus of disease appeared justifiable, especially as the immediate cause of obstruction was thought to have been removed by the release of the compressed coil of gut. So far no adhesions had been found anywhere. The operation lasted three-quarters of an hour and the patient was put back to bed with a pulse of 148. She was almost immediately sick—copious "coffee-ground" vomit—and this continued throughout the next thirty-six hours, the vomiting becoming more and more frequent and the collapse more marked. Ergotin hypodermically and ice to the epigastrium failed to check it. At 12 noon on the day following the operation the bowels acted; there was no blood in the stool. She died at 9 30 P.M. on Dec. 13th, thirty-six hours after operation. The ante-mortem diagnosis was some disturbance of adhesions about a gastric ulcer with secondary septic peritonitis.

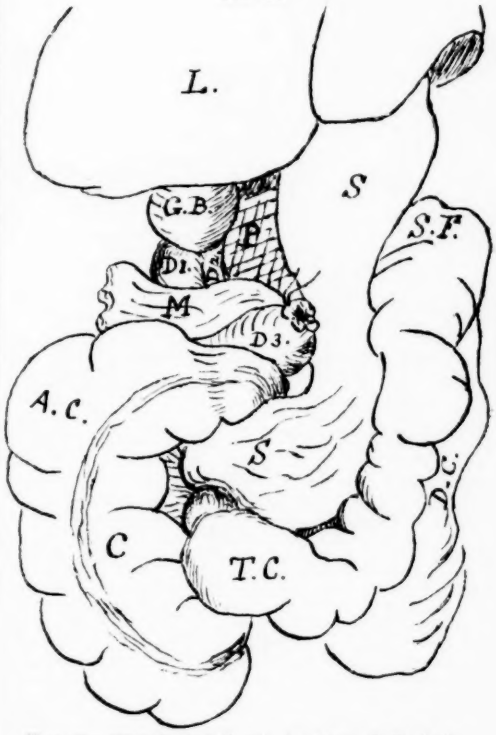
Necropsy.—The post-mortem examination was made thirty-six hours after death by Mrs. Flemming, M.D. Lond., pathologist to the hospital. The body was found to be much emaciated. On opening the abdomen the most prominent objects were the much-distended cæcum and the ascending colon, extending from the pelvis along the right side of the abdomen (Fig. 1). Towards the left, part of the transverse

FIG. 1.

View on opening the abdomen. L., Liver. S. G., Coils of small gut, more or less distended and congested. C., Cæcum. T. C., Transverse colon. S. F., Splenic flexure.

colon was seen, and nothing else was visible but coils of small intestine, some being deeply congested. There was no peritonitis. The cæcum could be lifted out of the pelvis and was quite free, being, as well as most of the ascending colon, surrounded entirely by peritoneum; extending upwards on the posterior surface and bound down to it was the vermiform appendix. The liver was completely under cover of the ribs from the fourth to the seventh; the gall-bladder was adherent to the first part of the duodenum. The free cæcum, ascending colon, and the greater part of the small intestine had made a complete revolution from left to right, and from behind forwards. It was this torsioned portion of small bowel that was noted from the first as so congested. Continuous with the lower and left edge of the mesentery was a short, well-marked ascending meso-colon (the cæcum and part of the ascending colon, as above stated, being quite free), which formed the arch felt at the operation. The stomach was pale in colour, of an hour-glass shape, and extending far down into the abdomen. On following it down the pyloric end was found to pass downwards in front of, then upwards and behind, the right end of the transverse colon (see Fig. 2).

FIG. 2.



View after removal of small gut. L., Liver. G. B., Gall-bladder. S., Stomach. D 1, D 2, D 3, The first, second, and third parts of the duodenum. C., Cæcum. A. C., T. C., D. C., Ascending, transverse, and descending colon. S. F., Splenic flexure. P., Pancreas.

the two viscera thus constricting one another. The duodenum was next examined; the second and third parts bore the normal relation to the right kidney and pancreas, but the first part, owing to the faulty position of the pylorus, was too long, and ascended vertically in front of the second part (see Fig. 2). The jejunum turned as usual sharply forwards and to the right; the peritoneum covering the first coil was adherent to the peritoneum covering the pancreas. The mesentery appeared at the upper border of the right end of the transverse colon in front of the junction of the stomach and duodenum (see Fig. 2) and to the outer or right side of the colon. The origin of the superior mesenteric artery was normal. The small intestine was now removed. For twelve feet of its extent it was not injected; the remainder was of a purple colour, and the mesentery of this part (the part involved with the cæcum in the volvulus) was thickened and contained swollen glands, which formed the firm mass felt on Dec. 7th, the volvulus having brought it down behind and to the mesial side of the ascending colon, where it was found at the operation. There was a constriction just beyond the dilated hepatic flexure of the colon (see Fig. 2). The transverse colon here passed in front of the vertically placed pyloric end of the stomach and then from above down behind the stomach to gain its normal position

with regard to the greater curvature. The splenic flexure was very acute and there were adhesions between the transverse colon as it passed up to the splenic flexure and the descending colon. As the colon thus hooked round the stomach its calibre was diminished, and this seemed to be a cause of chronic obstruction. There was no ulceration of the stomach or intestines. The congested part of the intestine contained dark grumous material similar to that vomited. In relation to the operation the following note was made. No sign was seen in the length of the small intestine of the nipped portion found at the operation. Before disturbing the parts examination was made as to the nature of the arch or hole felt at the operation from which the compressed coil of gut was released. It was found to be formed by the twisted mesentery, dragged down and fixed by the pelvic position and distension of the cæcum.

Remarks.—This case presents features of unusual interest, both pathologically and clinically. The interlocking of the transverse colon and stomach appears to be unique; at least, I have not been able to find a record of a similar case in the writings of Ahlfeld, Toldt, Treves, Lockwood, Kelynack, Talamon, or in Quain's Anatomy. It is difficult to account for such a relation of parts otherwise than by supposing an abnormal intertwining of the stomach and the primary intestinal fold at a very early stage of development. In connexion with this one notes the free position of the cæcum and part of the ascending colon, which no doubt favoured the volvulus that took place later, and which involved also all the lower half of the small intestine. Further, the distension and pelvic position of the cæcum appear to have been the cause of the stretching of the mesentery and meso-colon into an arch, beneath which the small intestine slipped and became compressed. Mr. Treves refers to this possible cause of internal strangulation, but regards it as extremely exceptional where no adhesions exist. In this case there were none, and the cæcum could be pulled up out of the pelvis. Thus there were present three causes of obstruction—narrowing of the transverse colon by pressure of the stomach and interference with the stomach by pressure of the transverse colon; volvulus of a large mass of intestine, to which the engorgement of the mesentery and the grumous vomit were no doubt due; and compression of a coil of small intestine beneath the mesentery, which apparently gave rise to no characteristic symptoms, and which probably was of little importance, as its release gave no relief. If we conclude that the relations of the stomach and transverse colon were of congenital origin, the question arises why the patient should have reached the age of thirty-three years before any signs of hampering of the stomach appeared. The most marked symptom during the last six years of her life was pain on ingestion of food, relieved by vomiting. There was also a fixed tender spot in the epigastrium, and these symptoms were relieved by the ordinary treatment for gastric ulcer, in which, no doubt, a restricted diet and diminution in the bulk of the food passing through the stomach and intestine played a large part. A larger meal than had been taken for some time appeared to induce the final attack, and one inquires to which of the three causes of obstruction were the acute symptoms due. I have stated above that one of these was probably of little importance. I am inclined to think that it was at this early period that the volvulus of the cæcum took place. True, the pain which followed the meal was referred to the stomach, just in the same way as earlier in the case, but the distension, although general at first, later localised itself more distinctly in the cæcum and ascending colon, while the black vomit appeared on the fourth day and the mass formed by the swollen mesentery was detected on the fifth day; at the same time, the greater the distension of the colon became the more did the constriction where the stomach crossed it increase, thus bringing another factor into play. The obstruction, it will be noted, was at no time absolute, and it is interesting that a spontaneous action of the bowels occurred on the tenth day, the morning of operation. In looking back on the case then, one sees in favour of the view that the volvulus was the dominating cause, the sudden onset of acute symptoms, the appearance of signs of engorgement, grumous vomit and a palpable tumour of swollen mesentery, localised distension, and the partial nature of the obstruction. The combination of gastric symptoms, due apparently to chronic compression of the stomach by the colon, with intestinal symptoms was throughout misleading, as was also the varying distension of the cæcum, and it is hardly wonderful that the operation failed to set matters straight when a careful and elaborate post-mortem dissection of the abdominal viscera was necessary to elucidate the true relation of the parts. At the same time I cannot help reflecting that had I succeeded at the operation in recognising and rectifying the volvulus the patient might have been relieved of the acute symptoms and have continued indefinitely her course of chronic indigestion and constipation.

I am indebted to Miss Walker for the earlier notes of the case, and to Mrs. Flemming for the extreme care with which she made the post-mortem dissection. The diagrams given were drawn from the post-mortem specimen before removal from the body. The specimen itself is at the Royal College of Surgeons of England; further examination will, I hope, throw more light on the cause of the malposition, or at any rate on its mode of production.

Harley-street, W.

TUBERCULOUS ULCERATION OF CÆCUM GIVING RISE TO SYMPTOMS OF DISEASE OF THE APPENDIX.

BY HERBERT W. PAGE, M.C. CANTAB., F.R.C.S. ENG.,
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I WISH to place the following instructive case on record, for the simulation of the common symptoms of disease of the appendix was such as to leave little room for doubt as to the nature of the ailment for which the patient had sought relief, and for which operation was undertaken. Nevertheless, the appendix was free from disease, and tuberculous ulceration and narrowing of the cæcum were alone found after death to account for the symptoms. The case is therefore of further value in demonstrating that disease of the cæcum, and of the cæcum only, may cause symptoms likely to be attributed to the appendix, and that positive diagnosis may be very much in error. Happily, increase of experience is adverse to infallibility. In a recent paper in the *Clinical Journal*, entitled "A Demonstration on a Case of Appendicitis," Mr. Lockwood refers to a similar case which had been under his care, where he operated upon a youth who had had what everyone considered to be two typical attacks of appendicitis. When the abdomen was opened it was found that he had acute tuberculous peritonitis, which was localised in the cæcum, in the vermiform appendix, the end of the ileum, and the mesentery. Pain, which had been severe, was entirely relieved by the operation, but the patient ultimately died from acute general tuberculosis. The following is my own case.

A woman, aged thirty-six years, admitted to the obstetric ward of St. Mary's Hospital on Feb. 18th, 1897, gave a history of having suffered from abdominal discomfort more or less for the past eighteen months. In May, 1896, she had an attack of pain in the right iliac fossa, accompanied with vomiting and constipation. Attacks of the same kind, two or three in number, but of less severity, followed at intervals, and in one which occurred shortly before her coming to the hospital a distinct lump had been felt in the iliac region. Uterine and ovarian disease having been excluded, I was asked to see her by Dr. Handfield-Jones, and under anæsthetics we both were able to feel a small hardish lump in the cæcal region. Local indications and history seeming thus to point to disease of the appendix the patient was transferred to my care, with a view to operation as soon as the temperature became normal and quiescence should be re-established after her last attack. With careful dieting and rest in bed this was accomplished, and she became comparatively free from pain. The patient, although emaciated and pale, seemed to be in a favourable state for operation, but I must acknowledge that I did not like the persistent hardness of the lump. There were scars on her neck from old gland suppuration, but there was no present reason to suspect that she was the subject of tuberculous disease. The exploration was undertaken on March 30th, the cæcum being exposed in the usual way and by the usual incision. It was at once obvious that we had to deal with no ordinary condition of things. Adhesions, old and firm, bound a tolerably hard lump which involved the cæcum, the size of a hen's egg, both to the abdominal wall and to the iliac fossa. The appendix was found and removed, but I could see no trace of disease in it, and further exploration

had to be abandoned by reason of the impossibility of separating the adhesions. Successful removal of the hard cæcal lump seemed to be out of the question: bleeding was therefore stayed and the wound was closed. The patient went on perfectly well for a couple of days and then without apparent reason began to vomit. Local indications of wrong were markedly absent, but on the third day she suddenly collapsed and died in a few hours without attempt at rally. We suspected perforation, and I deemed it useless to interfere.

I have to thank Dr. Poynton for the notes of an exhaustive post-mortem examination from which the following extracts must here suffice. The cæcum was much ulcerated and thickened by chronic inflammation, and at its junction with the ascending colon was a stricture half an inch in length of almost cartilaginous hardness and so tight as only to admit the passage of a small probe. Circumferential thickening and contraction accounted for this, and section showed that the induration passed into the surrounding areolar tissue after the manner of an infiltrating growth. On the cæcal side of the stricture there was extensive ulceration, and perforation had taken place at a point contiguous to it. No ulceration was found elsewhere. In front of the duodenum, in the position of one of the meso-colic glands, was a gland of the size of a small flattened orange, which on section presented the aspect of caseous material, but was not soft. Another smaller gland lay close beside it. There was an old scar just below the apex of the right lung. Microscopical examination of the several diseased parts was made, and the appearances in the gland very strongly suggested tuberculous disease in the neighbourhood. The bowel showed chronic inflammation, without sign of either sarcomatous or carcinomatous growth, and although not definitely tuberculous it was almost certainly of this nature. The stump of the appendix showed nothing more than some inflammatory thickening. Commenting on the notes Dr. Poynton remarks: "The case would appear to be one of chronic tuberculous ulceration of the colon and its junction with the cæcum resulting in stricture, with secondary ulcers, which, from the slight amount of induration, were perhaps not tuberculous, but the result of the obstruction. The glands were affected in the same chronic way."

There is, of course, nothing very uncommon in this condition of things discovered after death, but in its surgical aspect the case appears to me to be worthy of record.

THE VALUE OF AN EXCLUSIVE RED MEAT DIET IN CERTAIN CASES OF CHRONIC GOUT:

A CONTRIBUTION TO THE STUDY OF AUTO-INTOXICATION.[1]

BY WILLIAM ARMSTRONG, M.R.C.S. ENG.

ABOUT seven years ago I saw two patients, one suffering from severe chronic gouty arthritis and the other from recurrent uric acid calculi, in both of whom, after all routine treatment had failed, cure was effected by the so-called "Salisbury" treatment, prescribed and directed by a lady. Taking for many weeks nothing but red meat and hot water, these patients certainly made wonderful improvement, which, in spite of a gradual return to an ordinary dietary, persists to this day. It seemed to me that this treatment possessed some element of usefulness, but that it ought neither to be used indiscriminately nor without medical guidance. The only English book on the subject, which quickly obtained and still has a large circulation among the laity, was written in a tone and spirit which did not encourage the medical profession to give this method a thorough trial; but the patients whom I had tried in vain to help, and for whom I had sought the best special advice without good result, were so evidently benefited that I have since then given this diet a careful trial, more especially during the last three and a half years, when I have been afforded in Buxton exceptional opportunities for selecting suitable cases for its use and for watching its effects. The indefatigable and painstaking work of Dr. Alexander Haig and the careful and ingenious experiments of Dr. A. P. Luff, which latter, placed before us in the recent Goulstonian Lectures,[2] have excited so much interest, indicate that the red meats or their salts are in themselves harmful to the gouty. Having for the last three years been working on the subject of auto-poisoning in relation to the causation of gout, some forms of rheumatoid arthritis, and allied ailments, I had been led to doubt whether that is so, or whether it is not the admixture of food of other classes with the red meat which causes complex chemical changes leading to the formation (whether in the blood, tissues, or kindeys) of an excessive quantity of uric acid. The able and suggestive work of Dr. Lauder Brunton has done much to stimulate medical opinion on this subject, and has given us a better understanding regarding the chemical changes which take place during digestion and their clinical significance; while the researches of Gautier and Bouchard have added to our knowledge of "the self-poisoning of the individual."

The course of treatment, which lasts from four to twelve weeks in its strict form, is as follows—subject, of course, to such modifications as the condition of the patients and their progress demand. The bowels having been thoroughly relieved the patient begins to drink from three to five pints of hot water daily; the temperature of this should be from 100° to 120° F.; a little lemon juice may be added, and it should be drunk in sips. One pint should be taken at least one hour before each meal, and the same quantity at bedtime. The food should consist at first of beefsteak from which all fat, gristle, and connective tissue have been removed; this should be thoroughly minced, a little water being added, and then warmed through with gentle heat until it becomes brown in colour and perfectly soft and smooth; it can be eaten thus or else made up into cakes and cooked on the grill. On the minced meat may be put the poached whites of from two to four eggs per day. The only bread allowed is a half slice, cut very thin, and thoroughly torrified in the oven, with each meal. A little salt or pepper may be added to the meat, or a little mustard freshly mixed with lemon juice. As the treatment progresses a little of the steak may be given grilled, or a lean mutton chop; very little or no fluid should be given with the food. The quantity of the meat given is from one pound to four pounds in the twenty-four hours. During the latter part of the treatment a grilled cod-steak is often ordered Alcohol should be avoided; if absolutely necessary a little good whisky with cold water may be given with food; or a cup of weak tea with a slice of lemon, or a cup of black coffee may be taken. The immediate results experienced are a feeling of hunger and a difficulty in drinking so much hot water; these difficulties soon disappear, although the feeling of "emptiness" due to the stoppage of the carbohydrates often persists. There is also a marked diminution of the abdominal girth and a more or less rapid loss of flesh, especially in those who are fat and flabby; but walking is much easier and the breathing is often greatly relieved. The urine at first is often scanty and loaded with urates, which indicates either the necessity for adding some freshly prepared citrate of potash to the hot water given in the early morning and late evening, or else an increase in the quantity of water drunk. The bowels become constipated, the motions being scanty and dark coloured. An aperient is often necessary. After the first two or three weeks the patient begins to feel weak and easily tired, and it is wise at this stage to limit the amount of exercise taken, substituting in some cases a little massage; but before the conclusion of the course the strength returns, and stout patients especially feel the benefit of the diminished weight.

The changes due to the treatment are very marked. The swelling of the joints diminishes, the aching and soreness are greatly relieved, and the mobility is considerably increased. The patient becomes brighter, and work, both mental and bodily, is done with pleasure instead of with trouble and effort; acidity, pyrosis, heaviness, distension, and oppressed feelings after food disappear, flatus is greatly diminished in quantity and becomes much less offensive, and the perspiration loses the disagreeable odour so frequently present in these cases. The urine becomes more copious and clearer, and does not give the reactions to nitric acid and ferric chloride mentioned later, and the oxalates and uric acid are materially decreased. The indications for

[1] A paper read before the Medical Society of London on April 26th, 1897.

[2] THE LANCET, March 27th and April 3rd and 17th, 1897.

the adoption of this treatment seem to me to be: (1) obstinate and refractory chronic gouty arthritis; (2) recurrent uric acid calculi; (3) frequent and intractable migraine; and (4) obstinate gouty dyspepsia. The treatment appears to be indicated more especially if any of the following symptoms are present: (*a*) amylaceous and intestinal dyspepsia; (*b*) acidity, pyrosis, and flatulence; (*c*) heaviness and irritability after food; (*d*) excessive formation of sulphuretted hydrogen in the large intestine, disagreeable smelling perspiration, and offensive breath; and the following conditions of the urine: (*e*) persistent lithiasis; (*f*) oxaluria; (*g*) excessive formation of indican; (*h*) purple or red reaction with nitric acid; and (*i*) wine-red reaction with ferric chloride.

I am sure that where either damaged kidneys or a weakened heart are present exceptional care should be taken; in fact, many of these cases are quite unfit for the treatment. I do not say all, advisedly, as I have seen several cases in which both unsound kidneys and heart have been greatly relieved, but such patients require daily watching and the exhibition of great care, experience, and discretion. The above mentioned symptoms, I would venture to submit, bring us face to face with the great question of auto-poisoning. I have been greatly impressed by the sudden subsidence of severe chronic gouty arthritis in five cases. In three of these it followed what were described as "very severe bilious attacks"; and in two it came on after severe and spontaneous attacks of diarrhœa; the relief was immediate and complete, and for several weeks the patients kept better, but gradually the old symptoms began to return, and in three months after the sudden improvement they were as bad as ever. No doubt also many of us have observed how severe attacks of deltoid rheumatism of many weeks' standing have been at once removed by a mercurial purgative. These facts seem to me to point to the possibility of poisons generated in the alimentary canal setting up affections of the joints. Bouchard describes certain articular enlargements which he contends are almost always present, more or less, in cases of gastric dilatation. That a very considerable number of ptomaines, leucomaines, and toxins are formed in the alimentary canal seems to be beyond doubt, as is also the fact that they are taken up by the blood and appear in the urine. A most important discovery was made by Gautier in 1885, when he found that poisonous alkaloids were continuously being formed in healthy men and animals by decomposition in the intestinal canal during the process of digestion or in the blood and tissues generally by the metabolism which occurs during the functional activities of life. It seems to me that if we have either an excessive formation or a deficient elimination of these toxic products we get a condition of self-poisoning, which may be either slight and transient, severe and lasting, or, what I believe to be more common still, a daily storage of small quantities of noxious matter which gradually undermines the health, leads to deterioration of the nervous system, and disturbance of the nutrition of some or all of the structures of the body; and it seems likely that vital action is much more quickly interfered with through the accumulation of waste products within the organs than by any want of nutriment of the organs themselves. Aitken, writing on gout and rheumatism, says: "They are such diseases as become developed under the influence of agents generated within the body itself through the continuous exercise of its functions in the daily course of nutrition, development, or growth." That marked symptoms of poisoning do not more frequently occur is due to the physiological processes continually going on in our bodies: (*a*) the elimination of the poisons by the kidneys, liver, skin, lungs, and the lining membrane of the bowels; and (*b*) their destruction by oxygenation, the leucomaines being burned up in the blood. That the urine contains toxic products was made clear by the researches of Mr. Reginald Harrison, our esteemed President, concerning so-called "catheter fever" when he gave his adhesion to the following important conclusions: (1) In health alkaloids exist in the living subject; (2) these arise in the intestinal canal through the action of putrefactive intestinal organisms; (3) the alkaloids of normal urine represent a practical part of these alkaloids absorbed by the intestinal mucous membrane and excreted by the kidneys; and (4) diseases augmenting intestinal alkaloids augment in consequence the urinary. Dr. Lauder Brunton suggests that one set of poisons is probably allied to uric acid, and includes guanidine, methyl-guanidine, xanthine, and other derivatives of urea. A very interesting statement has been made that while the greatest part of the products of albuminous waste is in health secreted by man in the form of urea with very little uric acid, in disturbance of nutrition (as by self-poisoning, affections of the nervous system, &c.) the quantity of uric acid is enormously increased. It has also been suggested that as pyrocatechin, a body of the aromatic series frequently found in urine, is known to have a poisonous action on the spinal cord it may probably interfere with the joint centres, an thus set up reflex trouble in the articulations.

To those who entertain the opinion, so generally held, that the various toxins are formed from the decomposition of animal food it will not be at all clear how a meat dietary, even with the aid of hot water, can alter this condition; but Brunton and Macfadyen have shown that "the same bacteria which form a peptonising enzyme on proteid soil can also produce a diastatic enzyme on carbo-hydrate soil"; and, further, that "the same bacilli, when grown in starch-paste instead of in gelatin or in beef-tea, produced a different ferment, which would convert starch into sugar, but which would not act upon gelatin." Bouchard, again, strongly condemns bread, with the exception of the outer crust, on the ground that the process of baking, although it has interrupted the fermentation, has not stopped it altogether, and that this fermentation re-appears when moisture and temperature are again favourable to it, and from this are formed acetic and butyric acids, leucin, tyrosin, and phenol in large and poisonous quantities. The difficulties of a mixed diet of meat and carbo-hydrates in the gouty state are that the latter are so much more easily oxidised, and are therefore more readily consumed in the system than the albuminous compounds, and thus prevent the disintegration and oxidation of the latter; and also that vegetable albumin less easily undergoes disintegration than animal albumin. In gout disintegrative changes in the albuminates are arrested, and insufficiently oxidized substances remain in the blood; and in this connexion it is of importance to note that under a diet of animal food more oxygen is retained in the system than when starchy foods are taken in excess. The microbes subsisting on starchy food, milk, and cheese may be got rid of by a purely meat diet and *vice versâ*, the offending microbes being starved out.

I would now ask the question whether, from the foregoing facts and theories, it is possible to suggest any scientifically satisfying reason for using this dietary. And in reply I would submit that meat taken as suggested is easily and readily digested; that the process of digestion is more complete and perfect, and is almost entirely free both from the processes of fermentation and putrefaction and from the toxic products thereof; and also that there is a more complete oxidation of the food taken, and therefore less waste and morbid material remaining in the system. Whatever poison does remain is more promptly eliminated by diuretics than by any other means, and no diuretic is more efficient than a free supply of water, especially when taken into a comparatively empty stomach. The exceptional power of water as an eliminator has been well shown by the researches of Sanquirico into the lethal doses of various drugs. There can be no doubt also that water has a direct flushing effect on the stomach, kidneys, and liver. It has been suggested to me that, while a very much improved condition of the general health might be brought about by the stimulating effects of a diet of red meat, the uric acid in the system would be driven into the joints to their great detriment, and that when this diet was discontinued most serious relapse would occur, the last state of the patient being much worse than the first. I have watched this point most carefully, and in a number of cases I have gradually brought the patient down from a meat diet to a carefully arranged mixed dietary, and in eight cases still further to the meat-free dietary recommended by Dr. Alexander Haig, without any such result being observed. Had space permitted I should like to have submitted the detailed notes of cases of chronic gout and recurrent renal calculi treated by this method. In some respects the latter cases are the more interesting, for in spite of the continuous taking of solvents they were, up to the time of taking this dietary, frequently passing uric acid calculi. With the exception of a few small stones passed shortly after the commencement of the treatment (in less than half the cases only) no further formation took place, although the use of all solvents was discontinued.

My experience of the so-called "Salisbury" dietary has led me to form the following conclusions, which I venture to submit for consideration and criticism: (1) that a certain

number of cases of chronic gouty arthritis, recurrent uric acid calculi, and gouty dyspepsia, with fermentative changes, which have proved refractory to ordinary methods of treatment and dietary, may be treated by means of an exclusively red meat dietary, *plus* hot water drinking, with excellent results; (2) that this method of treatment is irksome and trying, and as, unless it is carried out strictly in the first instance, it is apt to do harm it should only be used in those cases where other methods have failed or are thought likely to do so; (3) that the cases require careful selection and close medical supervision, the details being modified according to the needs of each individual patient; (4) that those who suffer from persistent albuminuria or organic heart disease are in most instances unfit for this treatment—when, however, it is prescribed for them its course should be watched daily; (5) that certain cases of chronic gouty arthritis which fail to improve while on a mixed diet recover equally well whether on this dietary or on the meat-free dietary suggested by Dr. Alexander Haig; (6) that it is of the utmost importance that no addition, however small, of carbohydrates, saccharine matters, or fruit be made to the dietary during the first few weeks of treatment, very slight acts of carelessness in this respect having often caused disappointment and failure; and (7) that used with due care and discretion this method is a most efficient, and sometimes even a brilliant, addition to our therapeutic resources, but that it is only necessary in some 3 or 4 per cent. of gouty cases treated.

Buxton.

ON THE CONNEXION (IF ANY) BETWEEN MENTAL AND NON-PUERPERAL UTERINE DISEASES.

BY JAMES BRAITHWAITE, M.D. LOND.,
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MY attention was drawn to this subject by the following case. A single woman had spasmodic dysmenorrhœa of a very severe type. Her own medical attendant, who was a homœopath, not having given her any relief, she came to me as long as eight or ten years ago. I found her to be a delicate woman with some traces of old tubercle in the right apex. I dilated the cervix moderately, as I found that all medicinal treatment was useless. This dilatation gave her great relief from the pain, but it was only temporary, and in three months' time the pain was as bad as ever. The uterus was what I call "a sitting-down womb," as the sound first passed forwards, then backwards a little, and then forwards again. At her request I re-dilated the part, but did it extremely thoroughly, passing a laminaria tent the first day and dilating successively by Hegar's and Reid's dilators on the second and third days. The canal would then admit an index finger. This permanently cured the dysmenorrhœa, and the patient remains to this day perfectly well as regards this disease. Some years after this other symptoms led to a re-examination, when retroflexion was found. As the patient apparently suffered from this displacement it was rectified by a Hodge's pessary, No. 1 size, as the vagina was very small. This answered extremely well, and the periods, which had been rather profuse, became quite normal in amount. I again saw nothing more of her for some time, except that at regular intervals of about eight months I inserted a fresh pessary. In the autumn of 1896 she had begun to be in a desponding mental condition. She was, to use her own words, "unutterably miserable." Nothing could overcome her dejection of spirits. She was perfectly sane, and talked reasonably, but hopelessly, of what she called her unaccountable misery. In her letter to me she used the following expression: "The miseries of this extraordinary illness are breaking my heart." I will not say here what I thought was the real cause, or what I recommended in the treatment, as the patient went up to London on the advice of a relative and consulted a London physician, not, however, a gynæcologist. He at once made a vaginal examination without removing the pessary, if the statement of the patient is to be relied upon on this point. He made her "breathe down," to use her own words. He then told her that the cause of her mental condition was the state of her womb. He did not treat her himself for this but sent her to a well-known electrician and gynæcologist. This gentleman recommended electricity and baths in the treatment. He wrote to her mother, and the following sentence is taken from his letter: "The local condition is a hardened condition of the womb due to the bend, for which the dilatation does but temporary good. Electricity followed by the baths will, I believe, certainly allow of a complete cure." The patient then returned home to consult with her mother, and I was sent for and told about the opinion which had been given, and was shown the letter from which I have quoted. The next morning I examined the patient carefully myself. There was absolutely nothing abnormal, the uterus was in good position, there was no flexion or displacement of any kind, and the roof of the vagina on every side of the uterus was perfectly soft and normal. I may here say that I believe the physician who first examined her was perfectly honest in the opinion he gave her—that the mental condition was owing to some uterine disease. He did not verify this by his vaginal examination, as he did not remove the pessary. He seemed to think that such a condition must *necessarily* arise from uterine disease. With regard to the letter from the gynæcologist, it will be noticed that he referred to the dilatation, and said that this did but temporary good, whereas it made an absolute cure of the dysmenorrhœa. The bend referred to in the letter did not exist at the time I dilated for dysmenorrhœa, nor did it exist at the time of his examination, for I examined her myself a few days afterwards, and there was not the least trace of flexion, and there had been no flexion for at last eight months previously, when I last changed the pessary. He must only have inferred that there was a bend because he found a Hodge's pessary in the vagina. The real cause of the mental condition I believe was as follows, and this is also the patient's own explanation. In the summer of last year she had an attack of syncope at a menstrual period, not from pain, but simply from debility. She fell down upon the ground, as she was standing at the time. The next month she expected another attack, and she thought it possible that at any time she might fall down in the street. The dread of this kept her confined to the house and in a state of mental misery. I had recommended her to be sent from home to Cornwall or Devonshire in order that she might have frequent change of scene and air. When asked my opinion about the proposed electricity I said to the mother, the daughter not being present, that although I entirely disagreed with the idea that the mental condition was caused by a hardened condition of the womb, because no such hardened condition existed, and the case could be easily explained by the mental anxiety caused by the dread of another attack of syncope, still, I would not dissuade them from the electrical treatment, as the season of the year was winter, and the complete change of scene to a London nursing home, with the feeling that something great was being done for her, would probably act almost, if not quite, as beneficially as my plan of a tour in the South of England. The patient accordingly went to London and had electricity applied three times a week for five weeks, and then five times at rather longer intervals. She then went to Brighton for three weeks, and returned home about the middle of April perfectly cured as regards her mental condition. I feel absolutely certain that the electricity merely acted in the way I have named, and possibly the remedy is thought more of when it is very expensive.

This case it is which has drawn my attention to the subject which forms the title of this paper, especially as the physician who first saw the case in London, according to the patient's account—and I have nothing else to rely upon, for I have not had any communication from him or from the electrician—at once came to the conclusion that such a mental condition must be necessarily uterine in origin. A few years ago I altered and improved my plan of indexing my private cases. Since then I have full notes of about 2000 gynæcological and obstetric cases, the latter, however, being relatively few in number. I therefore at once referred to my index, and I have not one case at all like that which I have described, but I do not include in this cases of puerperal origin. A great many of the patients with retroflexion complained of curious feelings in the head, often described as a weight on the vertex. There are also a considerable number of cases of menstrual and inter-menstrual neuroses, often of a very severe type, but unattended with any mental affection. I must make, however, an exception to this statement, as I had one case of a girl who was overworked at school; menstruation ceased, and the girl ceased to speak or take any notice of anything around her. She

was not insane. This appeared to be simply mental and physical exhaustion. After about two years' treatment this girl is again beginning to menstruate, and she is able to answer questions.

On referring to perhaps what is one of the best works on mental diseases—that of Mr. Bevan Lewis—I find he makes no reference whatever to any connexion between uterine and mental diseases. He says, however, that there are two forms of insanity connected with menstruation—the first known as climacteric insanity, accompanied by gloomy forebodings, especially of a religious nature; the second known as the insanity of adolescents, characterised by religious exaltation. These cases, however, come to the mental physician and not to the gynæcologist. On looking over my notes of infirmary cases, which are also well indexed, I find I have had one case bearing upon the subject. This woman, who was thirty-four years of age and unmarried, suffered from the most intractable retroflexion along with mental depression of a severe type. No Hodge's pessary would keep the uterus in position, and I have a letter from a gentleman who saw her once or twice only, and who recommended that the operation of ventro-fixation should be done. He attributed her mental and neurotic symptoms to pressure on the ovaries by the flexed uterus. I performed this operation for her in the Leeds Infirmary on Jan. 21st last, and have no doubt that the uterus still remains in good position. I received, however, a letter about two months ago in which the patient's mother stated that her mental condition remains just as before. At the time of the operation I ascertained that the flexed fundus just touched the left ovary without pressing upon it, the ovary being to the outer side of, not behind, the fundus. The right ovary was not touched at all. My verdict, therefore, in the whole matter is that there is very little connexion, and only in rare and accidental cases, between genuine mental affections and ordinary non-puerperal uterine or ovarian diseases, but that there are any number of cases of neuroses of various kinds. In other words, the sensory portion of the nervous system, but not the thinking part, is liable to be upset. At the same time it must be remembered that there are often two points of view from which the same subject may be regarded, and taking it from the mental physician's point of view there is more evidence of a connexion between the two diseases. Dr. Charles Hood, formerly resident physician of Bethlem Hospital, in one of the decennial statistical reports of that hospital, says, when the process of menstruation is insufficient and painful, that there are often symptoms which may be said to foreshadow insanity—an irritable and quarrelsome disposition, a marked waywardness, a disposition to despond, and so on; and these symptoms are still more marked where the menses are altogether suppressed. Amenorrhœa, there is reason to believe, is frequently one of the causes of insanity; certainly, the menses are often suppressed in insanity, and their re-appearance is often contemporaneous with recovery. He then gives some statistics, but these are quite unreliable for my purpose, as cases of aggravated hysteria and those originating in puerperal mania and over-lactation are included. Dr. Hood concludes his review of cases of insanity from all sources with the following sentence: "The only general conclusion which can be drawn from a consideration of the causes of insanity is that they are more or less obviously of an exhausting or depressing character, a conclusion which shows indirectly what is now generally allowed, that insanity is a disease of depression, exhaustion, and irritation." It seems to me that it is only in this indirect way that there is a connexion between mental and non-puerperal uterine disease.

Leeds.

AURAL HYPEROSTOSES.

BY GEORGE P. FIELD, M.R.C.S. ENG.,
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As regards the subject of aural hyperostoses, to which I have for some years past devoted a considerable amount of attention, I would urge on all practitioners the desirability of taking careful note of all cases that come under their observation. It is true that these growths are the reverse of common, but they are of great pathological interest, and the complications to which they give rise may be most serious. During last year I operated on nineteen patients with aural exostoses. That of these only one was a hospital case seems to me inexplicable, unless it is due to the prevalent dislike among the poorer classes to contact with water; for, as I first pointed out many years ago, and my surmise has been repeatedly borne out by the histories of my patients, cold water may be looked upon as a usual factor in the production of these growths. My attention was earliest drawn to this point by their occurrence in three men—I have now operated on all of them for double exostosis—who were accustomed to bathe together in the sea twice a day.

The expectant treatment of these ivory-like excrescences is attended with much risk because not only do they increase insidiously to a large size, filling up the meatus, but they also, by pressure on its bony wall, give rise to painful inflammation, and the attendant pus being pent up behind the growths may cause severe brain symptoms and may lead to the death of the patient. I well remember two cases in which, although I strongly urged the necessity of operation, pointing out the hazard of delay, active interference was deferred to a more convenient season, as other advisers had maintained that the exostoses might "atrophy," the outcome being death in both instances before help could be given. I have removed aural exostoses both by chisel and by dental drill, and after a large experience have unhesitatingly decided in favour of the latter, as I have never witnessed a single failure where it has been employed. One striking result of the operation is that the benefit received is lasting—i.e., there is no recurrence of the obstruction, so that a favourable prognosis in case of removal is always fully justified. Thus the three men before alluded to are all perfectly well at the present time. The return of hearing after operation for exostosis may be delayed for six or eight weeks by persistent granulations in the meatus. These should be carefully removed with fine forceps; silver nitrate can then be applied on a probe. Subsequently a spirit lotion with boracic acid and glycerine should be used.

For this paper I have selected records more particularly of cases of medical men, as their testimony appears to me to be professionally more valuable than that of other persons. Incidentally in my recital will be observed additional confirmation of my theory that aural exostoses are occasioned with comparative frequency by the practice of bathing in cold water.

CASE 1.—I received recently from a medical man the following summary of his own case: "I consulted an aurist some years ago and he told me I had an exostosis in either ear, and that if it got worse I should do well to place myself under your care. In my youth I went in for diving a great deal and remaining under water for a long time. In later years I used to get deaf whenever I caught cold, and latterly on three occasions had a dull pain in the ears. When I consulted you eighteen months ago you told me that the exostoses were marked, and on my return from Egypt last year I submitted to a double operation at your hands. I was more or less deaf for two months afterwards—while, in fact, the granulations remained. After that time my hearing returned, and it is now as good as ever it was."

CASE 2.—Early last year I operated on a medical man in practice for large ivory growths in both ears. He had become so deaf that his continuance in practice as he was would have been quite impossible. After the operation he regained his hearing. There was nothing noteworthy in his case except that he also had been in the habit of bathing constantly in cold water. He had never been the subject of either gout or syphilis.

CASE 3.—A patient was sent in March, 1896, by Dr. Ferrier to consult me, and is remarkable for the age of the patient, which was only twenty-two years. In 1892 he first noticed irritation of the ears after bathing frequently. When I saw him both ears were occluded by large exostoses. After my operation on March 24th he remained at a surgical home for three weeks. He came again to see me on April 30th last, and he could then hear perfectly well with both ears.

I received communications a few weeks since from the first and second of my patients of the bathing trio already referred to. The first reports himself thus: "My hearing in both ears is excellent. I can use the stethoscope and hear a watch at arm's length. I suffer no inconvenience; I am, however, careful in bathing to protect my ears when under water, as you thought that bathing had possibly somewhat to do with originating the growth of the exostosis. It was at the end of the year 1877 that I was under your care, so that you operated on me now nearly twenty years ago." The

other patient says: "I have had no return of deafness since the last operation. I can hear equally well with either ear and can use a stethoscope as well as ever. I consider my hearing is as acute at present as it was before the growth of the exostoses."

CASE 4.—From yet another medical man I have received the following: "I am thirty-seven years of age and have, I believe, a slight gouty-rheumatic diathesis. About the middle of February, 1896, coming down the East African coast from Durban, I suffered suddenly from great pain alternating in both ears, with almost complete deafness. I had never suffered from deafness before this sudden attack, but for some time back, say, fifteen years, I had been susceptible to draughts at night time, waking up occasionally with a slight pain in the ear exposed. At Cape Town I was examined and both ears were found constricted, apparently by some growth, the constriction being aggravated by a highly inflamed state of the mucous membrane. Palliative measures were adopted, to which the inflammatory condition yielded, and before reaching Southampton on March 14th I had quite recovered. But I was aware that there was something radically wrong, and I consulted a surgeon, who diagnosed exostoses in both ears, and prescribed an ointment to be painted on the growths at specified times. This treatment I pursued for a month, with what result I am naturally unable to state. At that time I happened to describe my condition to a brother practitioner, and he, having examined the growths, strongly recommended me to see Mr. Field. He pointed out that the growths would most probably not decrease in size, and that I should be at any time liable to a similar inflammatory condition with its accompanying deafness. On April 17th I consulted Mr. Field, and he at once decided to drill out the growths. The operation was performed on April 21st. I was under anæsthesia for, I believe, nearly three-quarters of an hour. I suffered no pain and very slight discomfort. I left the private hospital on May 4th, having walked out with a protection to my ears for three or four days previously. In my case the granulations were particularly exuberant, and a slight discharge continued till the end of May, accompanied by deafness. The deafness was much relieved on my return from a short trip to Hamburg on June 22nd, and on July 2nd, when I last saw Mr. Field, it had entirely disappeared. I have been passionately fond all my life of bathing, and have lived in the water whenever possible. I have never taken the precaution to put cotton-wool in my ears."

CASE 5.—A patient, aged sixty years, was sent to me by Dr. Henry Green. There was a history of bathing in cold water, but, curiously enough, the ivory growth was in only one ear, the left. As there had been loss of hearing in the right for many years it was very important to obtain relief. I drilled in May, 1896. His hearing did not return for two months, for granulations in the meatus, the most annoying obstacle in the treatment subsequent to operation, were extremely persistent. However, after treatment with saturated solution of silver nitrate, applied by means of wool twisted on a fine probe, they by degrees disappeared, and audition in the left ear was completely regained.

CASE 6.—A patient, aged forty-seven years, another sufferer from exostoses, was sent to me by Sir William Broadbent. He had been deaf in the left ear for many years owing to an abscess, and both this and the other ear showed ivory growths when he consulted me. As he was in a large way of business it was of the utmost importance to him to recover his lost sense. He thus describes his case: "You performed the operation in March, 1896. Neither ear gave me any actual pain afterwards. The left ear is still deaf, and always has been so, but in the right I have regained my hearing." The granulations were troublesome also in this case, but were treated successfully in the way just referred to.

CASE 7.—In May, 1896, I operated on a man, aged forty-four years. The right tympanum had been destroyed by scarlet fever during babyhood. Hearing in the left was acute till near the end of 1895. This patient suggests that, as his father was always deaf in the right ear, and for some years in both ears, the exostosis from which he, the son, suffered may have been inherited. He confesses, however, that when about twenty-nine years of age, he bathed daily during six months, and that he generally had a little sea-bathing every year in the summer, floating a good deal without wool in the ears.

CASE 8.—In the case of a man on whom I operated in September, 1896, there was an ivory-like growth in the left ear only. There was but slight pain after treatment, and that merely for a short time on the third night, and recovery was complete within seven weeks.

In conclusion of what I have at present to say on the subject of aural exostoses, I will briefly refer to two instances of a pedunculated growth in one ear, and not the usual broad-based ivory-like mass.

CASE 9.—A man, aged thirty-six years, was sent to me by Mr. Hearnden, of Leatherhead. I followed with him the procedure I have found best in such cases—namely, to drill through the tumour at its base and then to seize and extract it with dentist's fine stump forceps. A year after the operation I received the report: "I have not had one moment's discomfort or any difficulty in hearing since I left your hands."

CASE 10.—The other patient, a woman, I had in the surgical home at the same time as the last. Pedunculated aural exostoses, I should mention, are very uncommon in women and are generally confined to one ear. I have never in hospital met with an instance among female patients, and I can remember a total of but five altogether. Of true ivory exostoses I have as yet seen no example among women, possibly because, as they object to wetting the hair, their ears are seldom exposed to a flow of cold water.

Wimpole-street, W.

DISTRICT NURSING ON A PROVIDENT BASIS.

BY JAMIESON B. HURRY, M.A., M.D. CANTAB.

IT was a singularly happy decision of Her Majesty's to devote the Women's Jubilee Offering of 1887 to the encouragement of district nursing of the poor in their own homes, and the nation will ever be grateful for that wise and unselfish gift, which has given such an impulse to district nursing and indirectly has brought comfort and relief to thousands of the suffering poor. This memorable year of 1897, with its celebration of the Diamond Jubilee, will give a further impulse to the movement, since in many parts of the country district nursing has been selected as the form of memorial most likely to benefit, both now and in the future, our large wage-earning population and to remind generations yet unborn of Her Gracious Majesty's never-failing sympathy with the suffering and poor.

The present occasion is therefore an opportune one for the inquiry—Has district nursing been organised on the wisest basis? Has it been made to benefit even the poorest, and at the same time to promote the providence and independence of the working classes? Is it possible to adopt a plan of work which, while meeting the above requirements, will render the movement self-supporting?

Unhappily, as usually managed, institutes of district nursing, instead of increasing the independence and self-reliance of the working classes, exert the opposite effect and encourage the poor to depend on the gratuitous help of the rich. In other words they tend to demoralise, instead of fostering a spirit of self-help and thrift. Moreover, the voluntary subscriptions given by the well-to-do in the neighbourhood are generally insufficient for the purpose, in consequence of which the utility of the work is curtailed and an inadequate staff of nurses endeavours to cope with an overwhelming amount of sickness. Even when the sick poor are encouraged to contribute towards the maintenance of the nurse (e.g. a few pence per visit), experience proves that it is almost impossible for them to do so, when illness comes and swallows up every penny of the weekly earnings.

These difficulties and objections will vanish if district nursing is organised on a provident self-supporting basis—on such a basis as is adopted by provident dispensaries and medical clubs. The latter supply medical attendance and medicines on condition that a small annual payment be made in advance, and the supply of skilled nursing may be organised on the same principle. Of course, the annual subscription must be on a most modest scale, and in proportion to the means of those to be benefited. For the sake of argument the sum may be stated at 1*s.* per annum per individual, but this, like other details, may be modified to suit local requirements. The sum of 1*s.* is equivalent to about a quarter of the amount usually paid annually for the dispensary or club medical man, and is probably as much as can

be collected from a member of the wage-earning class. Moreover, it is adequate for the purpose of making district nursing self-supporting, as will be shown hereafter. In the case of a family, 2*s.* 6*d.* per annum would probably be a sufficient charge, as the mother can, as a rule, do what nursing is required for the children, and only rarely will need more skilled assistance. When feasible, the collection of the annual contributions may be undertaken by the machinery of the local dispensary or benefit societies, which will, after deducting the cost of collecting, hand over the balance to the District Nursing Association, and in return have their members enrolled on the register of that Association. Another plan would be to include the services of the district nurse amongst the benefits a provident dispensary offers to its members, a small capitation charge being levied for the purpose. The total sum contributed towards the expenses of the nursing association per 1000 persons would vary somewhat, according to the relative proportion of unmarried persons and families, and according to the amount charged to each. But, on the basis suggested above, approximately £25 per annum would be collected. Thus 4000 members would yield £100 towards the expenses of the district nurses, and so on in like ratio. The annual cost of a trained district nurse is roughly estimated at from £80 to £100 a year, so that 4000 members would in the aggregate contribute a sufficient sum for her support. In addition, experience proves that one district nurse is amply sufficient for 4000 persons. Indeed, in many towns with a large artisan population, one nurse suffices for a population of 6000 or 8000. Hence it follows that upon this provident basis district nursing may readily be made self-supporting. In order to encourage payment in advance of the annual subscription, it would probably be desirable to exact an extra fee of perhaps 5*s.* from any person who had neglected to make himself "free of the nurse," and yet desired her services when sickness came.

One objection to this scheme may be raised—viz., that in some homes there is such extreme poverty that even 1*s.* a year cannot be paid, and yet the visits of the district nurse may be eminently required. This difficulty, which only applies to exceptional cases, may be met, if thought desirable, by adopting such a plan as that in vogue at some provident dispensaries, where subscribers, in return for their contributions, are entitled to free nomination tickets to be reserved for cases of extreme poverty. The recipient of such a ticket would be entitled to the gratuitous services of the nurse. Probably for an annual subscription of £1 about four such tickets might be given. Where there is actual destitution, the guardians of the poor have power, under an order of the Local Government Board dated Jan. 27th, 1892, to apply the rates for the purpose of nursing the out-door paupers, as is already done in the case of over 100 unions in various parts of the country. Such a course obviously tends in the long run to keep down the rates by diminishing the number of sick who would be compelled to go to the workhouse infirmary and also by helping to restore to health those who are dependent upon out-door relief. It is probable, therefore, that the guardians of the poor will frequently avail themselves of the occasional services of the district nurse and subscribe to her support.

The question may perhaps be asked, What need is there for the capital fund that is being raised in various localities towards establishing an institute of district nursing, if this can be worked on a provident, self-supporting basis? The reply is that such a fund, although not absolutely necessary, will help to give the movement a good start, by acquiring and furnishing a home for the nurses without deducting anything for the purpose from the contributions of the provident members. Moreover, there are various sick appliances, such as air-cushions, feeders, clinical thermometers, &c., which should be provided, and which can be lent gratis to provident members when the need arises.

In dealing with rural districts and a scattered population, some modification of the details of this scheme will be required, in adaptation to local circumstances. If on the one hand, the distances to be traversed by the nurse are greater and the number of visits she can pay is consequently reduced, this, on the other hand, will be to some extent compensated for by the more healthy condition of our rural population, which will less often require her services. But even if the details are altered, it is equally important to maintain a provident basis of work as preferable from its moral and economic aspects to a charitable one. The above remarks have referred especially to localities in which district nursing is being established in commemoration of Her Majesty's sixty years' reign. But there can be no great difficulty in introducing this scheme, even where the basis of work has hitherto been a charitable one. The two methods may for a time be worked side by side until the provident system is gradually substituted for the less desirable one.

In conclusion, this method of organisation presents several distinct advantages. First, the institute of district nursing, when once started, will be independent of charity, and can be maintained on a self-supporting, and therefore healthy, basis. Secondly, the working classes, instead of being encouraged to depend on the gratuitous help of others, are encouraged to make provision against the day of sickness, and a habit of thrift is promoted. Thirdly, the services of the district nurses will be more appreciated than if rendered gratuitously. Experience teaches that people value most what they pay for, and assuredly this applies to the question under discussion. The cumulative weight of these arguments must be readily apparent. No laments will be heard that the funds are insufficient for the work, and that an inadequate staff of nurses vainly endeavours to cope with an overwhelming amount of sickness. The institution becomes a help-myself nursing organisation, and enables the poor, by voluntary combination and at a trifling cost, to provide for skilled nursing, just as, by means of a provident dispensary, they now provide for medical aid and medicine. Such an institution, established on a provident, self-supporting basis, will be a power for good in a district, and will minister to the social welfare of the working classes.

Reading.

ANOTHER METHOD OF AMELIORATING BY OPERATION OTHERWISE INCURABLE INCONTINENCE OF URINE.

BY WM. ALEXANDER, M.D. R.U.I., F.R.C.S. ENG.,
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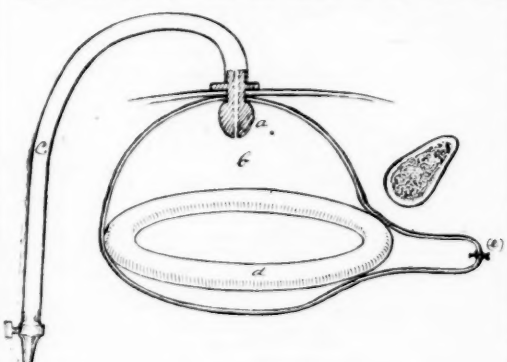
IN the fourth volume of the *British Gynæcological Journal*, p. 215, an uncorrected paper of mine appears, entitled "A Method of Treating Incontinence of Urine in the Female in Cases hitherto considered to be Beyond the Resources of Surgery." In that paper a fair amount of success was obtained by turning a paralysed urethra into the rectum, the latter viscus being able to retain the urine so long as to make the patient comfortable. This patient died about twelve months after operation, but not before she had put beyond doubt the practical use of this method of relief. Her condition was much inferior to that of nature, as she was practically in a condition resembling diarrhœa, having from six to eight evacuations daily, but at the same time the condition was a great improvement on her previous state, where she was continually wet and "reeking" with a urinous odour. In the same paper another case is described where an attempt was made to relieve a patient whose urethra had sloughed away. The same principle was adopted of depending on the rectal sphincter, but although we were on the verge of success the patient left the hospital before the urethral opening was closed.

Two years ago, on April 30th, 1895, a woman, aged thirty-four years, came into the Royal Southern Hospital suffering from incontinence of urine that had existed for the past fourteen years. She had always been delicate (tuberculous), and fourteen years ago she had diseased bone removed from the sacrum. It was after this operation that her urinary troubles began. At first she could not pass urine, then it began to dribble away, and she could not retain it for any length of time, and soon it flowed away constantly except when she was asleep, and then she would keep fairly dry for short periods. Examination on admission showed that she had no control over the rectum or urethra, the sphincters were quite flaccid, and the mucous membrane everted and congested. The uterus dropped down, and the lower part of the vaginal walls was everted. The whole vulva and perineum were congested, excoriated, and covered with salts and mucus that adhered to the hairs and skin, and the whole region looked, smelt, and felt very unpleasant. The idea of

diverting the urine from the imperfect vesical reservoir into a rectal one, as had been done in the previous cases, was not applicable here, as the rectal sphincter was, in this case, paralysed, and would not hold water. I could find no reference to such a case in the manuals of surgery or in monographs on urinary diseases, and it was only after much thought that I determined to close the urethral opening, and make a permanent suprapubic opening as high as possible and to which an appliance could be fixed that would carry off the urine. How this idea was successfully carried out I will now proceed to show. The formation of a suprapubic opening did not present any difficulties, as the bladder could be pushed up into the wound by the aid of a catheter. The bladder wall was stitched to the wound in the skin, and the wound allowed to heal before the urethra was closed. The closure of the urethra is apparently a simple operation, but in practice I found it very difficult. Suprapubic drainage is very imperfect. The tube in the bladder becomes surrounded by mucous membrane and is practically closed, whilst the urine issues by the side of the tube, and, worst of all, the forces of nature tend to send the stream by the old channel, the urethra. Hence union of the plastic wound to close the urethra is not always or often sound along the whole line of suture the first time, and several operations were required in this case before closure was complete Experience suggests the following directions to the operator who wishes to close the urethra: First, insert a thin elastic ring pessary into the bladder through the suprapubic opening, which, when it expands, is to lie in the fundus vesicæ, with part of its circumference over the inner orifice of the urethra. This ring keeps the bladder from contracting, converts it into a pool that can be drained by a syphon, stops the natural tendency that exists to force the urine into the urethra, and blocks that opening. This extraordinary procedure was of great value, and I would certainly adopt it again. Its insertion, retention, and removal did not present any difficulties or inconveniences, although, theoretically, it should have produced both. The urethra is best closed by splitting the mucous and muscular coats, turning the former in towards the bladder, and stitching together its raw and now external surfaces with numerous fine catgut sutures. The raw surfaces of the muscular coat are simply brought together by fine silkworm gut sutures. The method of drainage is simplicity itself. It consists in the ivory nozzle of a Higginson's syringe with the curves of the neck and



The diagram represents the ivory nozzle (*a*) in the bladder (*b*), with its tube and stopcock (*c*), the pessary (*d*) lying in position in the bladder during the closure of the urethra, and the method of closure of the urethra (*e*).

body of the nozzle exaggerated so as to have the shoulder below the neck more pronounced. A rubber tube with a tap at the end that can be brought through the dress and so allow the bladder to be empted with more than usual facility completes the apparatus. It is really self retaining, but a bandage round the body prevents the ejection of the tube under any great strain or awkward twist of the body. When the tap is closed the urine collecting distends the bladder and the tube, and as these become distended the internal hydraulic pressure keeps the shoulder of the nozzle applied to the inner margin of the opening until the patient feels the distension and lets the water flow away. Dr. J. A. Craig and I were planning all sorts of apparatus to fit the aperture and keep the patient dry, but we found that the Higginson's nozzle was more effectual than all our perfect theoretical notions, and it took us some time to realise theoretically how such a simple contrivance was effectual. The patient left the hospital on Aug. 8th, 1896. She came to show herself on March 17th, 1897, with the apparatus in good working order, her skin quite dry, and healthy, no urinary odour about her, and her linen clean and unstained. She can manage quite well, no urine escaping except a little sometimes at night when she is asleep. Her uterus is protruding, and we have recommended an advancement of the perineum to support it, but as far as the incontinence is concerned the results have exceeded all our expectations. It supersedes completely the rectal reservoir idea, and does not come far short of affording all the advantages of the natural condition.

L'verpool.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON THE INJURIES IN THREE CASES OF PERSONS STRUCK BY LIGHTNING.

BY E. POCKLINGTON, M.R.C.S. ENG., L.S.A.,
AND
R. T. POOLE COLLYNS, M.R.C.S. ENG.

As cases of injury from lightning are comparatively rare in this country the following may be of interest, having recently occurred in our practice.

On June 24th, at about 6 P.M. we were informed that one man and two boys had been injured on Wimbledon Common. The boys were aged respectively nine and eleven years, and had taken refuge from the storm in a temporary wooden structure without a roof, but they had apparently taken a sheet of galvanised iron, and propped it up on the wood as a shelter. When seen they were cold and collapsed, with a slow pulse, and seemed dazed; hearing was much impaired, but the eyesight was not affected; the elder one had a patch of hair, 1 in. by 3 in., over the left parietal bone singed and a red bruise on the left forearm; he complained of shooting pains in both wrists, the right being the worse. During the night both of the patients were violently sick, but in the morning they seemed but little the worse for the accident, except that they were slightly deaf. On examining the clothes after they were dry a dark round patch, the size of a shilling, was seen on the cap of the elder one, and two singed lines on the inner side of the left shirt sleeve.

The man was aged nineteen years, and was quite dead when found. A necropsy was made twenty-one hours after death. The body was well nourished. Rigor mortis was just commencing. The hair over the left parietal bone and on the left half of the body and the left leg was singed; there was a burn over the left clavicle where the brace buckle had rested, and there were also small round burns corresponding to the eyelet holes of the boot on the dorsum of the left foot. Arborescent lines were present over the whole of the body, being most marked on the left side of the chest and on the left thigh. On removing the skull cap a minute fissure which corresponded with the singed patch of hair was found; the vessels of the dura mater were gorged and the left ventricle of the brain contained much fluid, while the right contained only a normal quantity; the blood throughout the body was fluid and there was only one small clot on the left side of the heart; all the organs were much congested. On examining the clothes a small hole was found in the cap and the inside lining was much torn. The left sock was in rags and the left boot was burst open along the outer side. The sole was intact; the nails round the sole were brass, but there had evidently been three large steel nails as in the usual place for these there were holes with charred edges.

Wimbledon.

A NOTE ON TWO UNUSUAL COMPLICATIONS OF MIDWIFERY.

BY J. B. PIKE, M.R.C.S. ENG.

ON Oct. 2nd, 1896, I attended a multiparous woman. On arriving I found a tumour protruding from the anterior part of the vagina. It was somewhat difficult to ascertain its nature. In consistence it was something like dough, covered by mucous membrane, but with an indistinct feeling of fluctuation. It was almost plum-coloured, and about 2 in. long by 1 in. broad. Emptying the bladder had no effect upon it, and on making a complete examination it was found to be continuous with the os uteri. The head of the fœtus was lodged on the pubes of a somewhat narrow pelvis. I delivered with forceps under chloroform, and the elongated and œdematous anterior lip of the os, for it was this which formed the swelling, gradually receded without any serious symptoms.

On Jan. 15th, 1897, I attended a married woman. A midwife was in charge of the case, and her history of it was that it was something "she had never seen before." There was a contraction of the vaginal outlet so great that one finger could only be inserted with some force, and then only up to the middle joint. The woman had already borne a child with a natural labour. The contracted band, which was probably cicatricial, was divided by multiple incisions under chloroform, until sufficient room was gained to dilate with the hand, and the case was completed with forceps. Posteriorly a finger could be passed under the mucous membrane, between the vagina and the rectum, but owing in great measure to the excellent nursing of our district nurse the case went on very favourably.

Loughborough.

NOTE ON A CASE OF ACUTE ASCENDING PARALYSIS.

BY E. CECIL WILLIAMS, M.B. CANTAB.,
PHYSICIAN IN CHARGE OF OUT-PATIENTS, HOSPITAL FOR SICK CHILDREN AND WOMEN, BRISTOL.

THE probable diagnosis of the following case rests almost entirely on the history given by the mother, as the child was seen only twice just before death. The mother refused to allow the child to be admitted into the hospital, and it was impossible to obtain permission for a post-mortem examination. There had been seven children, the fifth and sixth of whom had died at ten weeks. The mother said that both had appeared perfectly healthy at birth. At the end of the first week she noticed that they did not kick when they had their baths, they gradually got weaker, the paralyses extending upwards, and both died at ten weeks, with inability to swallow or cry and failure of respiration—symptoms of bulbar paralysis. The elder children were perfectly healthy. The youngest, a full-time male child, appeared at birth to be quite healthy. At the end of the first week the mother noticed that the child did not use his legs. She said that he gradually got more feeble, but not so rapidly as the two previous children had done. At six weeks the mother noticed the breathing to be peculiar. When I first saw the child two weeks before his death he was in the following condition. The arms were slightly flexed, the forearm and hand were in a position of hyperpronation. It was impossible to fully extend the forearm on the arm; the tendon of the biceps could be felt perfectly tense when an attempt was made to extend the forearm. It was also impossible to fully supinate the hand and forearm; the fingers were slightly flexed into the palm. The intercostals were paralysed: there was diaphragmatic breathing. The abdominal muscles did not move. The legs and feet lay motionless and perfectly helpless; there were no contractures of the feet. The knee-jerks were abolished, and the plantar reflexes were almost absent. There was no muscular wasting, and sensibility did not seem to be impaired. The child did not have any difficulty in passing urine or motions; the latter were very offensive. He rapidly became worse, was unable to swallow, there was difficulty of respiration and inability to cry, and he died aged four months and two weeks. From the mother's account, which I have every reason to believe is a correct one, there seems to be no doubt that it was an ascending paralysis. There had not been any difficulty at birth; the labour was natural. There was no history of syphilis; the mother was perfectly healthy. She never noticed any sore on the cord that could have been the means of entry of any poison. There did not appear to be any swelling of the spleen or any of the mesenteric glands. They lived in a perfectly healthy house in the country; there was no history of malaria.

Landry's paralysis has occurred very rarely in children.[1] A case has been recorded in a boy aged eleven years, but it may possibly have been a case of peripheral neuritis; the boy recovered.[2] A case of ascending paralysis after whooping-cough has been recorded in a boy aged three years. The case recovered. It was regarded as of toxic origin.[3] Landry's paralysis is now regarded as being caused by a toxin. The occurrence of the disease in three successive children, commencing in the same way and running an almost identical course would in this case seem to suggest a common cause, possibly of toxic origin. The progress of this case was perhaps somewhat slow, but the symptoms fit in extremely well with those of Landry's paralysis, as given by Diller and Meyer.[4]

Clifton, Bristol.

NOTES OF TWO CASES OF DERMATITIS FROM CONTACT WITH THE PLANT "ANGELICA."

BY DAVID WALSH, M.D. EDIN.,
PHYSICIAN TO THE WESTERN SKIN HOSPITAL, LONDON.

THE dermatitis venenata set up by contact of the skin with various drugs and plants is interesting from various points of view. In this country perhaps the most common form in recent years is that due to the "primula obconica." A short while since two cases of acute dermatitis caused by gathering the plant "angelica" came under my notice.

A youth, aged eighteen years, a confectioner, pale, but apparently well-nourished, presented himself at the Western Skin Hospital on May 24th, complaining of an irritating rash on the forearms. He himself attributed the attack to the gathering of the plant "angelica," which he called "cow's parsley," in Regent's Park six days previously. When cutting the plant he had his sleeves rolled up and the leaves and juices came freely into contact with the front of the forearms. Next day he was attacked with an intensely burning and itching pain. On examination the parts indicated were found to be in an acutely inflamed condition and the inflammation was rapidly spreading both round to the back of the forearms and down to the hands. On the right forearm was a broken bleb the size of a shilling. The patient stated that a friend who helped him in gathering the plant was attacked in a similar fashion. In the friend's case, however, there was much more blistering and less pain, and the patient recovered in a few days under treatment with a simple zinc ointment. This rapid cure is interesting when compared with the intensity of the process in the patient who came to the hospital, and in whom the dermatitis persisted for several weeks.[5]

I have been unable to find any record of similar cases, although the plant, or rather its resin, is mentioned by Fernie as a skin stimulant. In the present case it was gathered for the purposes of preserving. When candied it is used very largely by confectioners for ornamenting cakes, and is not unlike fine green stalks of celery in appearance. In his book on "Herbal Simples" Fernie gives the following account of "angelica" (or "master-wort"): "The wild Angelica grows commonly throughout England as an umbelliferous plant, with a tall, hollow stem, out of which boys like to make pipes. It is purple, furrowed, and downy, bearing white flowers tinged with pink. But the herb is not useful as a simple until cultivated in our gardens, the larger variety being chosen for this purpose, and bearing the name Archangelica. It came to this country from northern latitudes in 1568. The aromatic stems are grown abundantly near London in moist fields for the use of confectioners. These stems when candied are sold as a favourite sweetmeat; they are grateful to the feeble stomach and will relieve flatulence promptly. The roots of the garden Angelica

[1] Starr's American Text-book of Diseases of Children.
[2] Ashby and Wright: Diseases of Children, Medical and Surgical.
[3] Brit. Med. Jour., Aug. 13th, 1887.
[4] American Journal of the Medical Sciences, April, 1896.
[5] The patient was shown at the meeting of the Dermatological Society of Great Britain and Ireland on May 26th.

contain plentifully a peculiar resin called "angelicin," which is stimulating to the lungs and to the skin. The infusion will relieve flatulent stomach-ache and will promote menstruation; it is also of use as a stimulating bronchial tonic in the catarrh of aged and feeble persons. Angelica is said to cause a disgust for spirituous liquors. In high Dutch it is named the root of the Holy Ghost. The fruit is employed for flavouring some cordials, notably Chartreuse. Gerard says: 'If you do but take a piece of the root and hold it in your mouth; chew the same between your teeth; it doth most certainly drive away pestilent aire.'"

Pump-court, E.C.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF CONGENITAL SHORTNESS OF METACARPAL AND METATARSAL BONES.

(Under the care of Mr. E. W. ROUGHTON.)

A DOMESTIC servant, aged thirty years, applied for treatment on account of an inflamed corn on the third toe of the left foot. It was noticed that the fourth toe was much shortened. The right foot at first sight appeared normal, but on closer examination it was seen that the big toe was shortened owing to the metatarso-phalangeal joint being

further back than usual. The hands presented a similar deformity. When the fingers were extended the tips of them were very nearly in line owing to relative shortness of the middle and ring fingers. When the fingers were flexed at the metarcarpo-phalangeal joint the knuckles presented an irregular line owing to shortness of two of the metacarpal bones. The accompanying skiagraph demonstrates very clearly the nature of the malformation. The fourth metatarsal bone of the left foot, the first metatarsal bone of the right foot, and the three inner metacarpal bones of both hands are stunted, being about two-thirds of their normal length. The heads of the bones are curiously mis-shapen, somewhat resembling the changes met with in large joints affected with Charcot's disease. The patient presented no other deformity and knew of no similar condition in any other member of her family. She complained that her hands were somewhat weak, but her feet caused her no trouble with the exception of the inflamed corn, which was due to an ill-fitting boot.

Remarks by Mr. ROUGHTON.—The patient attributed the deformity of the hands to an injury she had received in childhood, but she could offer no explanation of the condition of the feet. I think there can be no doubt that the deformity is of congenital origin, but I am unable to offer any further explanation of it.

BRISTOL GENERAL HOSPITAL.

A CASE OF MULTIPLE ANEURYSM; NECROPSY; REMARKS.

(Under the care of Dr. J. LACY FIRTH.)

A MAN, aged sixty-eight years, was in September, 1896, admitted to the Bristol General Hospital under the care of Dr. J. Lacy Firth. The patient complained of a cough which he had had for twenty years, of weakness, of some difficulty in swallowing, and of pain and numbness in the arms and fore-arms. He first noticed pain in the arms, chiefly in the axillæ, fifteen months previously. The pain led him to examine the axillæ and he found a swelling in each. He ceased to work twelve months previously. The swelling in the right axilla, he said, had diminished latterly, and the severe pain, which used to shoot down the arm and fore-arm had also diminished. In fact, on admission he said he considered that there was very little amiss with the right arm. No history of syphilis or other venereal disease was obtainable. He had worked as an ordinary labourer all his life since boyhood, with the exception of a year or two at first, when he had acted as stoker on a steamer. He was thin, sallow, and broken-down in appearance, with a weak and hoarse voice. His cough was very troublesome, and examination of the chest revealed signs of bronchitis and emphysema. There was deficient expansion of the chest and prominence of the sterno-mastoids in the neck. Numerous râles were audible over the lungs and the cardiac dulness was replaced by resonance. Careful inspection revealed a slight degree of pulsation in the second right intercostal space close to the sternum, and the first, second, and third spaces on this, the right side, had impaired percussion resonance near the sternum. Occasionally, and only with difficulty, a faint systolic bruit could be heard in the same area. The apex beat was in the fifth left space and half an inch internal to the nipple line and was feeble and the heart sounds were weak. No cardiac bruits were heard. Beneath the right sterno-mastoid with the fingers and thumb passed deeply behind its internal and external borders respectively, the carotid artery could be grasped and was felt to be dilated into a fusiform swelling, extending two and a half inches upwards from the clavicle. With the arms abducted there was seen protruding downwards between the axillary folds on each side a globular swelling with expansile pulsation. Palpation showed these to be the lower extremities of oval pulsating tumours extending upwards in the axillæ towards the clavicles, and the upper ends could not be reached from below. The left one was a good deal larger than the right, and produced conspicuous bulging in the sub-clavicular region. The cephalic veins in both arms were distended and there was a network of distended veins in the right sub-clavicular region. The right radial pulse was weaker and smaller than the left. The patient died from bronchitis and exhaustion a few weeks after admission.

Necropsy.—The heart, thoracic aorta, and branches of the arch, the axillary arteries and portions of the brachials were removed *en masse*, with the trachea and œsophagus. There were found an aneurysm of the second and third parts of each axillary artery of the mixed fusiform and saccular type, a fusiform aneurysm of the right carotid, a mixed aneurysm of the innominate artery, and dilation of the ascending aorta. Of these the innominate was the largest. It involved the whole of the artery and was four inches long

and two and a quarter inches in diameter. The right subclavian and carotid arteries sprang from the convex upper surface of the aneurysm and were a third of an inch apart at their origins. The axillary aneurysms were closely surrounded by the branches of the brachial plexus of nerves. The left was four inches long, and the right two and a half inches. The carotid aneurysm was two inches long and purely fusiform. The right bronchus was concealed behind the innominate aneurysm. There were no valvular heart lesions or conspicuous renal changes.

Remarks by Dr. FIRTH.—Aneurysms are usually single. It is not, however, uncommon to meet with symmetrical aneurysms of each popliteal artery. The similarity of the anatomical relations of the two arteries and the equal functional activity of the affected parts render each of these arteries equally liable to form an aneurysm. But symmetrical aneurysm of each axillary or subclavian artery is rare. In these arteries aneurysm is almost always single, and much commoner on the right side than on the left, no doubt by reason of the greater functional activity usually of the right arm. For the same reason one would expect a right aneurysm of the axillary artery to be larger than the left in a case of double aneurysm, but in my case the right was the smaller. Probably the diminution in size of the right aneurysm and the amelioration of the pressure symptoms were due to the development of the innominate aneurysm, and the weaker pulse on the right side, the side of the smaller axillary aneurysm, is similarly explainable. Erichsen[1] stated that he was acquainted with only one case in which both axillaries were aneurysmal. The same writer mentions two cases in which symmetrical intracranial aneurysms formed on the internal carotid arteries, and Mr. Pearce Gould[2] has alluded to examples of aneurysm in each vertebral artery within the skull, and even of one in each hepatic artery. Identity of anatomical relationship will again explain the symmetry of these aneurysms. Multiple aneurysms are sometimes developed in patients with rheumatism and malignant endocarditis, and are of embolic origin. Spontaneous aneurysm in young people under twenty years of age is probably always embolic and found in association with valvular heart disease, and is frequently multiple. A special aneurysmal diathesis is sometimes spoken of as explaining the existence of multiple aneurysm. But there is no advantage gained by using such an expression. Multiple aneurysms obviously form, because the degeneration of the arterial walls has advanced sufficiently far, in more than one place, to yield before the blood pressure. As degeneration of arteries is a widespread change, it is remarkable that multiple aneurysm is not more frequently met with. Perhaps the infrequency of its occurrence points to the frequent operation of other accessory and immediately exciting causes in the production of the aneurysm, in addition to the predisposing cause of arterial degeneration—e.g., of injury, which ruptures an atheromatous abscess in the middle, or middle and internal coats of the artery. Erichsen mentions an extraordinary case of Pelletan's, in which there were no less than sixty-five aneurysms present.

[1] Science and Art of Surgery, vol. ii., p. 205.
[2] Treves's System of Surgery, vol. i., p. 589

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

A CASE OF LARGE PAROTID TUMOUR SUCCESSFULLY REMOVED FROM AN OLD MAN.

(Under the care of Mr. FREDERICK PAGE.)

THE complex new-growth of the parotid gland, which is often called the "glandular parotid tumour," is on the whole possessed of but little malignancy; in most cases these growths are readily removed after having existed for years and having attained a large size.[1] Their structure has claimed for them the cacophonous title of chondro-myxo-fibro-adenoma, for they frequently contain all these tissues. The

malignancy which they sometimes possess is apparently dependent on the presence of sarcomatous elements amongst the fibrous tissue.

Some eight years ago Mr. Page was consulted by a man with a large parotid tumour of many years' growth and recommended its removal. The patient refused to undergo an operation on account of his age. In July, 1896, Mr. Page again saw the man, who was then seventy-one years old. The tumour had grown a good deal, protruding into the

[1] Paget: Lectures on Surgical Pathology of Tumours, third edition, p. 521.

mouth and throat so as to seriously interfere with his swallowing and his breathing. The illustration shows very well the condition. An operation had become necessary. On Aug. 1st a long incision was made through the skin from the right ear nearly to the angle of the left jaw, and the tumour was enucleated in one mass without injury to the mucous membrane of the mouth and throat. The growth was somewhat firmly connected with the base of the skull, and it was necessary to plug the upper part of the deep wound in order to check bleeding from a vein which could not be tied. Very little constitutional disturbance followed, and the patient made a rapid recovery. In consequence of injury to the facial nerve the cornea of the right eye sloughed, and the eye was removed in the following October. The patient was in good health till a week ago, when he died at the age of seventy-two years.

Remarks by Mr. PAGE.—The case illustrates the uncertainty as to the difficulty in removing these large chronic parotid tumours. Great difficulty was anticipated in this case, but the tumour shelled out quite readily, and very little blood was lost. The old man, too, bore the operation well.

FYZABAD SADR DISPENSARY.

A CASE OF CIRSOID ANEURYSM OF THE SCALP; LIGATURE AND ACUPRESSURE FOLLOWED BY IMMEDIATE AND COMPLETE EXCISION; RECOVERY.

(Under the care of Surgeon-Major J. J. PRATT, I.M.S., Civil Surgeon, Fyzabad.)

CIRSOID aneurysm is a comparatively rare condition, and its treatment presents great difficulties to the surgeon. Should the incision invade the diseased tissue the hæmorrhage is so profuse as to endanger the life of the patient, and, further, the thinning of the arterial walls often extends much beyond the apparent swelling, so that the disease is very liable to return and progress after the original mass has been destroyed or removed. The procedure adopted by Surgeon-Major Pratt promises well to be the best method of treatment, as the preliminary ligature of the supplying arteries prevents any great danger of hæmorrhage during the operation, and the complete excision of the diseased vessels offers the best guarantee against recurrence. Mere ligature of the arteries entering the tumour is of very little benefit. It would be of interest to learn the condition of the patient when a longer period has elapsed since the operation.

A Brahman, aged thirty years, was admitted into the dispensary on Jan. 4th, 1897, suffering from a typical cirsoid aneurysm of the left side of the scalp. The arteries affected were the temporal, both anterior and posterior branches, and the occipital. The tumour, which was prominent and lobulated on the surface, occupied practically the whole of the left side of the head above and behind the ear, and was made up of a number of dilated and tortuous arterial branches, the largest of which in their most dilated parts were equal in size to an average forefinger. Pulsation could not be entirely checked by compression of the temporal in front of the ear and the occipital immediately above the nape of the neck, where in its enlarged condition it first became visible. It was consequently evident that to some extent, as was to be expected, the tumour was fed by the supra-orbital and frontal arteries of the same side and the temporal artery of the opposite side, and, as a matter of fact, on careful examination these were found to be slightly enlarged. A thrill was detected over the centre of the growth and for some distance along the larger feeding vessels. The patient stated that three years ago he noticed a small, rounded swelling on the left side of the top of his head, which pulsated and was painful. It slowly but steadily increased in size until it attained its present dimensions. Four months ago he lost a considerable quantity of blood from it and nearly died. Fearing a recurrence of this mishap he sought surgical aid in the hope of a cure being effected. He was unable to assign any cause for the growth, and could not recollect having sustained any local injury prior to its first appearance. The skin over the most prominent part of the tumour in the posterior parietal region was atrophied and thinned to a dangerous extent and in one spot showed signs of having given way not long before, thus bearing out the truth of the patient's statement regarding the hæmorrhage which had occurred. The case was manifestly one in which immediate operative interference was called for. Accordingly, on the morning of Jan. 7th, the patient, who was in fair condition but decidedly anæmic, was placed under the influence of chloroform, the scalp having first been carefully shaved and cleansed. An incision was made over the left temporal artery immediately in front of the tragus and the vessel at once ligatured. At the other end of the tumour a harelip pin was passed underneath the occipital artery and a ligature tightly applied round it. The pulsation in the tumour was then found to have almost entirely stopped; in one or two places only was it faintly perceptible. An incision was then made gradually around the whole mass of the tumour, commencing at its posterior border about an inch above the spot where the needle was passed under the occipital artery. Forcipressure was applied in fourteen places in the course of the incision. The tumour was then dissected off the pericranium, ligatures of carbolised catgut were applied round the different bleeding points, and the forceps removed. Three vessels in the pericranium which could not be tied gave considerable trouble; finally, the bleeding from them was arrested in two by acupressure and in the third by the application of a pair of bulldog forceps, both needles and forceps being left for the time being *in situ*. The edges of the wound, which measured five and a half inches in length by a maximum of three and three-quarter inches in breadth, were then brought together as far as possible by harelip pins and sutures, its surface was swabbed with a solution of perchloride of iron and a compress and bandage were firmly applied. The loss of blood during the operation was considerable, but, taking the nature of the case into consideration, no more than was to be expected. The patient was kept in absolute quiet and rest and on liquid diet. A mixture containing small quantities of quinine and opium was administered with a view to checking the rise of temperature so common in malarial subjects after surgical operations of any kind. The progress of the case was as follows. On the 7th, 8th, and 9th he was doing well. There was no pain or hæmorrhage. The dressings were left undisturbed. On the 10th the compress and bandage were removed. The surface of the wound in the scalp was covered with iron scab. It was dressed with iodoform and carbolised lint. The incision over the temporal artery had practically healed. The morning temperature was normal, the evening temperature being 100° F. A saline diaphoretic and laxative mixture was ordered to be given every four hours. On the 11th there was no fever and he was doing well. On the 14th the temperature was normal. Two harelip pins and several sutures were removed. On the 15th the margins of the wound were granulating. The acupressure needle from beneath the occipital artery and the remaining stitches were removed. On the 17th the progress was maintained. The patient was on full diet and was putting on flesh. On the 19th the ligature on the temporal artery came away; the wound was contracting. On the 26th progress had been uninterrupted during the past week. By Feb. 6th the wound had become considerably reduced in size and was rapidly healing. There was no pulsation in any vessel in the neighbourhood. The arteries of the front and the opposite side of the scalp had returned to their normal size. On the 22nd the patient was discharged to the out-patient department with a healthy granulating ulcer of the scalp two and a quarter inches long by one and three-quarter inches broad at the widest part.

HOSPITAL REFORM AT BRISTOL.—A meeting of the Hospital Reform Association was held at Bristol on June 16th under the presidency of Dr. Markham E. Skerritt. The discussion which took place brought out the fact that while the medical profession at Bristol are agreed that reform of some sort is necessary, they are not quite unanimous as to the direction in which reform should go. The following resolution, proposed by Mr. Garrett Horder, was passed: "That in the opinion of this meeting it is most desirable that the medical charities of Bristol and Clifton should be restricted as far as possible to the wants of the necessitous poor, and it is further of opinion that the recommendations of the Hospital Reform Association for the prevention of the abuse of the out-patient and casualty departments are deserving of consideration by the governing bodies and acting medical staff of the various hospitals and dispensaries."

Medical Societies.

BRITISH GYNÆCOLOGICAL SOCIETY.

Carcinoma of the Cervix treated by Curettage and Chloride of Zinc Paste.—Puerperal Peritonitis treated with Anti-streptococcic Serum.—Exhibition of Specimens.

A MEETING of this society was held on June 10th, Mr. A. W. MAYO ROBSON, the President, being in the chair.

The Secretary read a paper by Dr. JOHN MEEK (Canada) on two cases of Advanced Carcinoma of the Cervix treated by Curettage and Chloride of Zinc Paste. The first patient made a good recovery. In the second case the patient went on well for four days with no rise of temperature and passing plenty of urine; then suppression of urine supervened; the bladder was empty. There were no uræmic symptoms after the stoppage for forty-eight hours, then there was a tendency to stupor and occasional slight delirium for twenty-four hours preceding death. There was no post-mortem examination, but it was probable that the ureters had become obstructed from pressure of the eschar, the result of the zinc cauterisation.—Mr. BOWREMAN JESSETT and Dr. PURCELL, speaking on the paper, said that they had now treated about fifty or sixty cases at the Cancer Hospital by this method with one death. There were about a dozen patients operated upon from one and a half to two and a half years ago who presented so far no recurrence. Though the treatment could not be considered curative it prolonged life and rendered it much more comfortable.

Dr. R. T. SMITH read a paper on a case of Puerperal Peritonitis treated with Anti-streptococcic Serum. The patient, a primipara, had been the subject of tubal mischief. The labour was normal, and so was the puerperium for two days, after which symptoms of septicæmia set in, and it was thought that this might be due to rupture of the diseased tube. The question of abdominal section was considered, but it was decided against. On the fifth day 10 c.c. of anti-streptococcic serum were injected, repeated on the seventh day. There was temporary improvement, after which the patient became worse, and on the ninth day abdominal section was again considered, but it was thought that the patient was too weak for it, so stimulants were pushed and the serum treatment persevered in. Alternations of improvement and relapse succeeded, but eventually the patient began to gain ground, and finally recovered. Dr. Smith concluded that abdominal section in the first instance would probably have been the wiser plan. The serum treatment certainly did no harm, and probably in this case prevented a fatal issue; he thought that it was well worth trying in such cases.—Dr. JOHN SHAW said that he had used the anti-streptococcic serum in one case. The puerperium was normal for three days, then fever developed. He at once began with 20 c.c. of the serum; in six hours another 10 c.c. were given, and this amount was then repeated twice daily. He noted that the temperature always seemed to be higher just after the injection. Streptococci were found in the vaginal secretion. Eventually an abscess formed in the left Fallopian tube.—Dr. GRANVILLE BANTOCK thought that there was no distinct evidence that the serum played any important part in the favourable result.

Dr. MACNAUGHTON JONES showed a specimen, together with a microscopical preparation, of Carcinoma of the Kidney for which nephrectomy was performed. The patient made a good recovery.—Mr. BLAND SUTTON said that the malignant tumours of the kidney were—(1) carcinoma, like the present specimen, which was extremely rare; (2) sarcoma arising in the connective tissue of the pelvis of the kidney; and (3) sarcoma associated with the suprarenal capsules, which was probably the least malignant form.

Mr. R. H. HODGSON showed a specimen of Fibro-myoma of the Right Broad Ligament. It was so closely associated with the uterus that he performed panhysterectomy. The patient made a good recovery.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Election of Officers.—Climatic Treatment of Phthisis.—Gouty Liver and Sulphur Spas.

THE second general meeting of this society was held at the rooms of the Medical Society of London on June 9th, the President, Dr. ANDREW S. MYRTLE (Harrogate), being in the chair.

The officers for the ensuing year were elected, Dr. William V. Snow (Bournemouth) being the President-elect.—Dr. HYDE read the report of the Council. The total number of Fellows was now 340.

The adjourned discussion on Dr. SNOW'S paper dealing with the Climatic Treatment of Phthisis was resumed.—The following took part in the discussion: Dr. SYMES THOMPSON, Dr. WILLIAM EWART, Dr. CARL RUEDI, Dr. ROBERT LEE, Dr. ST. CLAIR THOMSON, and Dr. SEPTIMUS SUNDERLAND.—Dr. SNOW, in replying, said that he believed that treatment by altitude in suitable cases would secure more permanent and better results than by treatment in the South of France, England, or anywhere else. There were few cases he would send to South Africa other than young men whose friends could provide moderate means and who were likely to be satisfied with the open-air life on farm land.

The PRESIDENT then read a paper entitled Gouty Liver and Sulphur Spas, giving the results of his treatment of certain cases of enlarged liver occurring in gouty subjects by the use of the Harrogate sulphur waters. He never resorted to deep massage until the congestion and enlargement of the liver had been much relieved by the waters.

Reviews and Notices of Books.

Materia Medica, Therapeutics, and Pharmacology. By GEORGE FRANK BUTLER, M.D. Pp. 858. London: The Rebman Publishing Company. 1897. Price 22s. 6d.

THIS book is dedicated to the medical students of the United States, and the author is Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago, hence for English readers it necessarily contains much that extends beyond the range of English practice in relation both to pharmacopœial drugs and pharmaceutical preparations. The author excuses the omission of reference to many new and comparatively untried remedies on the ground that they are as yet too imperfectly known to warrant association with remedial agents bearing the sanction of exhaustive scrutiny, but to balance matters, he has also excluded a few official drugs (U.S.P.), because they are practically never used or are employed only in isolated instances.

The arrangement of the material in this book differs considerably from that which is ordinarily adopted. The early pages comprise a classification of medicines and also the usual tables of weights and measures, and these are immediately followed by a detailed consideration of pharmaceutical preparations. In connexion with these the author aims at presenting in brief form the results rather than detailed descriptions of processes. A large number of elixirs are enumerated, and they are defined as being a class of "elegant preparations similar to wines or cordials, composed of water, sugar, alcohol, and aromatics." The list of elixirs extends over four pages, and they are obviously intended to act as vehicles to mask or modify the taste of nauseous drugs. The details given respecting these are scarcely sufficient to enable them to be dispensed, and the lists of these and of other official preparations indicate more the relative strength of the preparations than the exact constituents. Doubtless the author has exercised a wise discretion in thus eliminating mere technicalities of dispensing and preserving only those facts which it is important for the prescriber to remember.

The consideration of drugs employed in medicine naturally occupies the greater portion of the book, and drugs are for descriptive purposes considered under the headings of Disease Medicines, Antiseptics, Symptom Medicines, and Topical Remedies. It must be admitted that this classification

is extremely arbitrary. Thus, in the first class of Disease Medicines the author includes restoratives comprising digestants, fats and oils, mineral acids, vegetable acids, alkalies, mineral waters, bitters, and hæmatics; while under the heading of Symptom Medicines he groups together such remedies as antispasmodics, antipyretics, anæsthetics, hypnotics, and the like.

The general plan of the consideration of each drug is as follows. First, its origin is given with as few technicalities as possible, then the drug is described and its physical properties are dealt with briefly. The dose follows, and after this is placed a list of incompatibles, wherever it is possible for these to be enumerated; and having thus indicated with what remedies the particular drug cannot be given, the author next enumerates the synergists, or drugs which it is convenient to prescribe at the same time. These preliminaries are followed by a description of the physiological action, and this description necessarily varies in length according to the importance of the drug and according to the knowledge of the action upon the different physiological systems. With some drugs—as, for instance, with the compounds of arsenic—the physiological actions externally, locally, and internally upon the digestive system, circulatory system, nervous system, respiratory system, &c., are given in detail. The mention of this drug will serve to indicate one valuable innovation to be found in this work. After the physiological action, the author describes under a separate heading of Untoward Action the undesirable effects produced by medicinal doses in very susceptible persons. The description of these symptoms we greet with satisfaction, as they are in so many cases the indications for diminishing the dose, or for discontinuing the administration of the drug, and they are the symptoms which mark the border-line between beneficial and prejudicial actions of medicines, and should therefore be recognised before true toxic effects are to be expected. The paragraph upon Untoward Action is followed by a description of poisoning, both acute and chronic, together with a very brief account of the treatment of cases of poisoning.

Under the heading of Therapeutics the author describes the application of the drugs to particular diseases. In some cases he appends a short list of the contra-indications to the employment of the remedy, and also supplies sundry hints connected with the administration of the drug, these hints including such questions as the time of administration, the mode of administration with regard to dilution, and the reasons for selecting one official preparation rather than another.

After this detailed account of the various drugs employed in medicine, much space is devoted to the rules which govern prescribing in Latin. These rules extend to the language and grammatical construction of prescriptions, and some of the pages look very much like those of a Latin grammar, in which the names of drugs replace the old familiar variations of what Balbus did with a wall. It may be doubted whether in a work of this description it is necessary to give a half page to the declension of the numerals *unus*, *duo*, and *tres*. The author, however, defends the introduction of such very elementary facts by his concluding sentence, which runs thus:—"No matter how able a diagnostician, pathologist, or bacteriologist the new doctor may be, if his first effort in prescription writing be illegible, poor Latin, or for a hopelessly incompatible mixture, the druggist will label, classify, and measure him with the keenness of professional insight. The judgment will go forth quietly, and years of successful practice may not serve to eradicate that first unfavourable impression."

The information conveyed in this book is sufficiently up to date, and it is expressed in simple language under headings which facilitate reference and study.

Traité de Chirurgie clinique et opératoire. Par A. Le DENTU, Professeur de Clinique chirurgicale à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Necker, et PIERRE DELBET, Professeur agregé à la Faculté de Médecine de Paris. (*A Treatise on Clinical and Operative Surgery*). Tome I, pp. 822. Paris: J. B. Baillière et Fils. 1896. Price 12 francs.

THIS is the era of "Systems" of Surgery and the allied sciences. At the present time there are appearing five or six works, each devoted to surgery, and each consisting of several volumes, from four to as many as ten. Some claim to be "international," but most represent one country only. There are obvious advantages in having the various portions of a subject so large as surgery dealt with by several writers, for no one surgeon can represent adequately all its branches. Though the advantages are great, there are disadvantages no less certain and obvious. The great difficulty is that it is practically impossible to secure any real uniformity in the fulness with which the various departments of the subject are treated. It is the duty of the editor to attempt to reduce all the contributions to one uniform level and to remove any inconsistencies between the statements in different articles, but even when all possible care has been exercised it is never found that anything really resembling uniformity has been attained.

This treatise on clinical and operative surgery is intended to extend to ten volumes. With the names of Professor Le Dentu and Professor Delbet as editors we have a guarantee that the work will be well done. The distinguishing characteristic claimed for this treatise is that it contains an account of the surgery of the present day, not that of times which are past. Very little space is devoted to the history of the subject, and discarded methods of treatment are ignored. It is intended that it shall contain a full account of recent advances in pathological anatomy and in bacteriology, with all the important modifications which they have brought about in surgical therapeutics—those operative methods which have extended so much the field of surgical activity. This, the first volume, deals only with general pathology and the surgical diseases of the skin. The section devoted to general pathology is by several writers, and the most important article in it is that on Neoplasms by Professor Delbet, one of the editors. He gives an excellent account of the present state of our knowledge of the pathology of neoplasms, and treats with especial fulness the question of the etiology of malignant growths, which has of recent years received so much attention. After a very complete presentation of the views of all observers, with copious references to the work that they have done, Professor Delbet comes to the conclusion that, though it is possible that malignant tumours may be due to parasites, yet no satisfactory proof has up to the present time been given of any such origin. This is an opinion in which the majority of English pathologists will concur.

Cases have from time to time been observed, in which tumours, diagnosed as sarcomatous in nature, have either disappeared or undergone great diminution during an attack of erysipelas. These facts have naturally greatly impressed surgeons, and various attempts have been made to utilise the influence of erysipelas as a therapeutic agent in malignant disease. The first attempt was made by Fehleisen in 1882, and he was followed by many others, who employed the method both in sarcomata and in carcinomata, but in the former alone have the results been worthy of notice. Solutions of streptococci have been used in some cases, and in others sterilised and filtered cultures, and in others again streptococcic serum has been the agent employed. The results obtained differ greatly in the practice of different surgeons, but the conclusion to which Professor Delbet comes is that, though in most cases the injections have a

marked effect upon the growth, yet the effect is nearly always merely temporary, and in some cases death has resulted.

In the section on Cicatrices, by Dr. Lyot, an account is given of an operation of an exceedingly ingenious nature. Dr. Guermonprey (of Lille) had a patient in whom a large cicatrix, which had recently become sarcomatous, occupied the postero-lateral portion of the body and had commenced to invade the axilla. To cover in the large surface left after removal of the growth, the operator decided to sacrifice the upper arm while keeping the forearm and hand. The integuments of the upper arm, with some muscular substance, were raised in two flaps (anterior and posterior), with their bases at the shoulder, and were laid down on the bare surface resulting from the extirpation of the tumour. The shaft of the humerus was removed, and the two epiphyses were sutured together, the skin of the forearm being stitched to that of the shoulder. Unfortunately, we are not told what was the ultimate result of this heroic performance.

The surgical diseases of the skin are satisfactorily treated; but there are several other lesions of the skin which might have been considered surgical.

It is decidedly a pity that the volume has no alphabetical index; no doubt there will be an index in the final volume, but it adds much to the convenience of the reader if each volume in a treatise of many volumes has an index of its own. The illustrations are hardly satisfactory, they are scanty and crude. If the succeeding volumes equal the one before us, this treatise on Surgery will be excelled by none of those which have hitherto appeared.

Guy's Hospital Reports. Edited by E. C. PERRY, M.A., M.D., and W. H. A. JACOBSON, M.A., M.Ch. Vol. LII. London: J. & A. Churchill. 1896.

MANY besides "Guy's men" will read with sympathetic appreciation the tribute paid by Mr. Jacobson to Arthur Edward Durham. This memoir, to which is prefixed an admirable portrait, for fulness, for keen and loving analysis of a most lovable and gifted character, deserves a high place in biographical writings. It is surely inspired by no common affection, and it gives a picture of its subject which is worthy both of him and of his friend. Of the other contents of the volume we note three interesting contributions from the pen of Dr. F. Taylor, all of which are of considerable clinical interest. One is a record of a case of Shingles followed by Paralysis of Abdominal Muscles—a sequel so rare as to suggest the possibility of its being sometimes overlooked in an affection that is obviously neurotic in origin. Dr. Taylor also records some cases of Cirrhosis of the Liver in Children, in which he discusses the significance of the enlarged cirrhotic liver, its association with a greatly enlarged spleen, and the difficulties in the way of accepting any other satisfactory etiology than that of alcoholism. The subject is one of great interest, not only in regard to the dependence of cirrhosis upon alcoholism, but on the alleged distinction of biliary cirrhosis, and it is a question that can hardly be yet said to be solved. Dr. Taylor's third paper is on Splenic Anæmia, in which a case is recorded of marked splenic enlargement without leukæmia. The later stages of the case do, however, seem to show a decided increase in the white blood cells, whilst the decrease in the red corpuscles was very marked. In this case splenectomy was proposed, but was declined by the child's parents. Death occurred three months after leaving hospital, and no post-mortem examination was obtained. Mr. Davies-Colley writes a useful practical paper on Hallux Flexus, Claw Toe, and Pes Cavus, and Mr. Newland-Pedley one on Some Acquired Maxillary Defects and their Treatment. Dr. W. J. Tyson, in a paper on Cases of Appendicitis, distinguishes between the cases of simple perityphlitis (of which he thinks 2 or 3 per cent., or more, are due to fæcal accumulation in the cæcum), which recover under medical treatment, such cases forming the majority met with in practice; cases of perityphlitic abscess that demand surgical intervention; and those of acute general peritonitis, from necrosis of the appendix. There are notes of several cases in which operations were successfully had recourse to. Dr. C. R. A. Sutton writes on Albuminuric Retinitis, dealing with its pathology and its prognostic significance. He attributes the retinal changes to blood deterioration rather than to any uræmic condition, and points out that in acute nephritis and in early cases of pregnancy the retinitis often disappears with the albuminuria, and further gives reasons for believing that it is of far graver significance in chronic tubal than in interstitial nephritis. There are also papers by Dr. T. G. Stevens on Laceration of the Female Perinæum; by Dr. J. Fawcett on the Urinary Excretion in Gout, and the effect of treatment with colchicum and salicylate of soda; and by Mr. L. A. Dunn on a successful case of Pylorectomy for Carcinoma, in which Murphy's button was employed to unite the duodenum and stomach.

Reports from the Laboratory of the Royal College of Physicians of Edinburgh. Edited by J. BATTY TUKE, M.D. Edin., and H. NOEL PATON, M.D. Edin. Vol. VI. Edinburgh: W. F. Clay. 1897. 8vo, pp. 303, with eleven Full-page Illustrations. Price 8*s.* 6*d.* net.

THE present volume is stated in the preface to contain abstracts of longer papers which record the results of work done in the laboratory, but which have been published elsewhere, and also shorter communications which have been published in various journals. The old laboratory was founded in 1888, and consisted of an old house which was equipped at a cost of about £1000. It was situated close to the Royal Infirmary, and was immediately frequented by numerous workers, whose researches, represented by 114 papers, are contained in the five antecedent volumes of these reports. More space being urgently required, a new laboratory has been obtained, situated in Forrest-row and Bristo-street, and was occupied in June, 1896. The objects in view have been to provide a research laboratory for bacteriological, histological, chemical, physiological, and pathological work; to make provision for examining and reporting on specimens sent by medical men; to provide a photographic department for macro- and micro-photography; and to make suitable provision for carrying on the preparation of curative antitoxins. Several plates are given showing the ground plan and the interior of the laboratory, and the arrangements seem very convenient and complete. It is not practicable to mention all the articles contained in this volume, since there are no less than thirty-six. Many of them have appeared in other journals, but amongst the most important are, Observations on the Changes in the Mucous Membrane of the Corpus Uteri and in attached Fœtal Membranes during Pregnancy, by Dr. J. C. Webster, which was published *in extenso* in the *American Gynæcological and Obstetrical Journal* of New York. It is a valuable contribution to this subject, giving the characters of the decidua at different periods; and a Note on the Development of the Clitoris, Vagina and Hymen, by Dr. D. Berry Hart. The Anatomy of the Cæcum and of the Vermiform Appendix is given by Dr. Richard Berry, of Edinburgh. Dr. Noel Paton contributes articles on the Physiology of the Fats, on the Relationship of the Liver to Fats, and, in conjunction with Dr. G. Lovell Gulland, on the Absorption of Carbo-hydrates by the Intestinal Epithelium. Dr. James Dunlop investigates the Excretion of Oxalic Acid in Urine and its bearing on

oxaluria, and also the Action of Large Doses of Dilute Mineral Acids on Metabolism. He shows that these acids have a marked diuretic action, that they increase the total acidity of the urine, and produce an increase in the excretion of nitrogen and of soda. There are twelve articles on pathological subjects, amongst which may be mentioned the following:—Dr. Ralph Stockman on Iron in the Liver and Spleen in Various Diseases; a case of Pernicious Anæmia; the Experimental Production of Anæmia in Dogs; and the Treatment of Chlorosis by Iron. The pharmacological articles include one on Catha Edulis, and another on Viburnum Prunifolium (Black Haw) by Dr. Theodore Shennan; one on Carbonic Acid Gas in Diseases of the Alimentary Tract, by Dr. A. L. Gillespie; and one on Malayan Arrow Poisons by Dr. Ralph Stockman.

JOURNALS AND REVIEWS.

Birmingham Medical Review.—Mr. T. L. Webb contributes a practical paper on Preserving Pathological Specimens for the Museum and for Microscopical Examination. He recommends Tores's fluid for large masses, perchloride of mercury for small portions requiring careful study, and dilute formalin where the process must be rapid.

Scottish Medical and Surgical Journal.—Dr. James Rorie, of the Dundee Royal Lunatic Asylum, publishes the first portion of a paper on Homicidal Insanity, describing some typical cases. Dr. A. H. F. Barbour (Edinburgh) writes on Bleeding in Pregnancy and Labour, and its Mode of Arrest. Dr. Robert Jardine (Glasgow) records a case of Persistent Hymen in a woman in labour; "the husband, who was a young man, did not seem to be aware that there was anything wrong."

Edinburgh Medical Journal.—Mr. W. Bevan Lewis, of the West Riding Asylum, contributes a long and elaborate histological paper on the Structure of the First or Outermost Layer of the Cerebral Cortex. Dr. P. McBride and Dr. A. L. Turner continue their articles on Naso-pharyngeal Adenoids. Altogether there are eight original communications.

Dublin Journal of Medical Science.—This number contains a further instalment of Dr. J. Knott's article on Angina Pectoris. Dr. H. S. Purdon (Belfast) has a short note on Ecphyma Globulus, a contagious skin affection of rare occurrence.

Revue Philanthropique.—The opening paper is by M. Jules Siegfried, who takes Working-class Dwellings for his subject. He first gives a short account of the work of numerous associations formed for the purpose of erecting low-rented dwellings, commencing with the Société des Cités Ouvrières de Mulhouse, founded in that town in 1851, and making a brief reference to English building societies and the operations of the Peabody Trustees. The greater part of his article is devoted to the Société Française des Habitations à Bon Marché, founded in the end of 1889. Professor Grancher, of the Hospital for Sick Children, writes on Disinfection in Home Nursing.

The Intercolonial Medical Journal of Australia.—The number of this journal bearing date April 20th, 1897, has among other interesting articles one describing a form of nerve degeneration in horses, especially of the optic nerves. The disease closely resembles tobacco amblyopia as seen in the human subject, and is most probably due to the eating of the native tobacco plant, though this point has not yet been satisfactorily settled. Dr. J. W. Barrett, who contributes the paper, sums up as follows: "The chief symptom of the disease is blindness, and the blindness is due to degeneration of the optic nerve. Tobacco would readily produce these symptoms, and apparently the tobacco plant grows in the affected areas." Dr. A. J. Wood relates a case of a Halfpenny Impacted in the Œsophagus removed after localisation by the x rays.

In the *Phonographic Record* for June Dr. Lundie points out that flat-foot is not exclusively an affection of adolescence. Dr. Colborne sends notes of Ophthalmic Work in China; Dr. Given narrates a case of Paralysis of the Second, Fifth, and Sixth Cranial Nerves; and Mr. Peyton Beale, in a suggestive paper on Perforating Ulceration of the Appendix Vermiformis, draws attention to œdema of the skin over the region of the cæcum as pathognomonic of the lesion. As such cases are never seen before perforation this localised œdema, in Mr. Beale's opinion, is a sure guide to the source of the acute peritonitis which is present. Immediate laparotomy, quickly performed, with removal of the appendix, is the only possible treatment. Mr. Beale deprecates washing out the abdomen, and after allowing the pus to well out he plugs the wound lightly with iodoform gauze.

WE have received from Messrs. Henry Graves and Co., of Pall Mall, London, an artist proof of one of their recent publications—"Inasmuch as." The subject is a nurse holding a child in her arms. It is admirably executed, and likely to be popular. The price is one guinea per impression for the artist proofs, and 10*s.* 6*d.* per impression for the prints.

Analytical Records
FROM
THE LANCET LABORATORY.

ANTIKAMNIA AND SALOL TABLETS.
(J. M. RICHARDS, 46, HOLBORN-VIADUCT, E.C.)

ACCORDING to our analysis, antikamnia contains as its chief constituent acetanilide, or antifebrin—a well-known antipyretic—in association with caffeine, which may be supposed to exert a modifying and favourable influence over the action of the former drug, chiefly in counteracting its depressing effect upon the heart. Valuable as this formula may be as an analgesic and antipyretic in the treatment of neuralgia, rheumatism, &c., it has been further modified recently by the addition of salol, which, as a milder agent than salicylic acid, has been employed in acute rheumatism. The combination is doubtless a useful one, and we are glad to find that it is "offered to the profession" and not for indiscriminate use.

CHINOSOL SOAP AND POWDER.
(B. KUHN, 36, ST. MARY-AT-HILL, E.C.)

A year ago we expressed the opinion that chinosol, in view of the many advantages which it presented, would become of special service as an antiseptic, disinfectant, and deodorant. Since that time it has been somewhat extensively employed with excellent results. It presents the important advantages that it is not caustic, corrosive, or poisonous, while it is free from objectionable odour and it does not coagulate albumin. It will serve as an admirable substitute for iodoform, carbolic acid, or even the powerful antiseptic corrosive sublimate. Chinosol is a bright yellow powder, freely soluble in cold water, and possessing a faintly aromatic odour. It may be employed in the form of tablets for making up solutions of definite strength, and recently it has been incorporated with soap adapted either for medicinal or toilet purposes. The soap basis proved on examination to be perfectly neutral. Still more recently, crude chinosol powder and chinosol disinfecting powder, for ordinary domestic disinfecting purposes, have been prepared. Bacteriological experiments have shown chinosol to be a very powerful antiseptic, while practical experience has proved that it may safely be employed.

SERRAVALLO'S BARK AND TONIC WINE.

(ROBERTS AND CO., 73, NEW BOND-STREET, W.)

From clinical results published on the Continent this wine would appear to be of distinct value in chlorosis and anæmia. Its value in this connexion depends most probably on the assimilable nature of the two medicinal constituents, the presence of which our analysis has confirmed. The iron is present as an organic combination, while in spite of the presence of the principles derived from Peruvian bark the wine is commendably free from excess of astringent matters and is not at all styptic. It is a sweet, somewhat syrupy liquid of peculiar purplish colour, with a slightly bitter taste. Iron was found in important quantity in the mineral matter obtained on incineration of the residue, while ether extracted a bitter substance, which proved to be fluorescent in sulphuric acid, and which responded to the ordinary tests for alkaloids. Analysis gave further results as follows: Extractives and sugar, 21·05 per cent.; mineral matter, 0·25 per cent.; alcohol, by weight 13·0 per cent., by volume 17·17 per cent. The wine affords an agreeable way of presenting two valuable tonic agents.

HUMANISED MILK (GAERTNER'S PROCESS).

(FRIERN MANOR DAIRY FARM, LTD., 20, FARRINGDON-STREET, E.C.)

Nothing could be more satisfactory than the composition of this product or more excellent than its condition. It presents a composition practically identical with mothers' milk, and a sample kept some months in the laboratory remained sterile and perfectly sweet. The results of our analysis were as follows: Water, 83·65 per cent.; total solid matters, 11·35 per cent., of which 3·10 consisted of fat, 6·43 of milk sugar, 1·82 of casein, and 0·35 of mineral matter. The milk is prepared on the following excellent plan. Milk fresh from the cow is diluted with an equal quantity of sterilised water. The diluted milk is then submitted to rapid centrifugal force in such a manner as to effect the separation of two streams, one containing practically all the cream, and the other the skim milk along with objectionable particles such as hairs, dirt, sand, &c. To the creamy milk thus separated milk sugar is added in the proportion of from 3 to 4 grammes per 100 c.c. The result is then a product with an excellent proportion of fat, and of other constituents in accordance with the proportions found in mother's milk. It obviously presents very distinct advantages over cow's milk that has been merely diluted with water, and, what is of further importance, the process yields a milk which is free from objectionable impurities such as may act as sources of infection. We are not surprised to learn that this milk has given satisfactory results in actual experience of infant feeding.

ST. RONAN'S TABLE WATER.

(ST. RONAN'S WELLS AND MINERAL WATER CO., INNERLEITHEN, N.B.)

Excluding salt, this well-aerated water shows a remarkable freedom from dissolved mineral matter. It is peculiarly soft and fresh to the taste. Our analysis of the water was as follows: Total solid matter, 1·05 grammes per litre; common salt, 0·90 gramme per litre; bicarbonate of soda, *nil;* calcium carbonate, a distinct amount. The water is thus only slightly mineralised, while it is free from organic impurity.

OLD SCOTCH WHISKY (BRIG O' PERTH BLEND).

(MATTHEW GLOAG, 24, ATTWEL ATHOLL-STREET, PERTH.)

The flavour of whisky is entirely a matter depending upon the skill in blending, while its wholesomeness may be measured by the time the spirit has been allowed to mature. The above whisky, though of full alcoholic strength, possesses a delicate and soft flavour. It is further free from any excess of colouring matters and extractives. Analysis gave the following results: Alcohol, by weight 44·64 per cent., by volume 52·29 per cent., equal to proof spirit 91·64 per cent.; extractives, 0·12 per cent.; mineral matter, *nil;* acidity reckoned as acetic acid 0·016 per cent. This whisky is clearly a wholesome and well-blended spirit, possessing age, and is desirably smooth and mellow to the taste.

BYNIN AMARA.

(ALLEN AND HANBURYS, LIMITED, PLOUGH-COURT, LOMBARD-STREET, E.C.)

This excellent preparation is a distinct advance on Easton's syrup. Not only does it contain the phosphates of iron, quinine, and strychnine unimpaired, but the vehicle for their palatable administration is, as our experiments have shown, a powerful digestive of farinaceous food. This vehicle is bynin, or liquid malt, which exhibits a powerful liquefying and converting action upon starch. Bynin amara is a thin brown syrup of not unpleasant though decidedly bitter taste. It contains no objectionable preservatives, and presents the medicinal ingredients of the excellent formula of Easton's syrup in correct ratio and in approved form. We succeeded in proving the presence of each and all of the tonic constituents indicated. The formula is such as is admirably adapted for the administration of one of the best tonic combinations known.

SOLVEOL.

(BURGOYNE, BURBIDGES, AND CO., 12 AND 16, COLEMAN-STREET, E.C.)

According to our examination solveol is a neutral solution of pure cresol. It is a clear, brown, thin liquid, perfectly miscible with water. On adding hydrochloric acid to solveol a crystalline buff-coloured precipitate results. Solveol on burning yields an ash of carbonate of soda. Its advantages as an antiseptic in midwifery and gynæcological practice, and for antiseptic irrigations generally, are evident when foremost amongst its properties are that it is non-poisonous and non-caustic, while it is said to be not incompatible with albumin, &c. The merit of the preparation appears to be that it represents for the first time a neutral aqueous solution of cresol, the practical application of which hitherto has been made inconvenient and unsatisfactory by reason of its insolubility.

BYRRH WINE.

(VIOLET FRÈRES, 68, CHEAPSIDE, E.C.)

Our analysis of this wine was as follows: Alcohol, by weight 16·46 per cent., by volume 20·24 per cent.; extractives with sugar, 13·86 per cent.; and mineral matter, 0·23 per cent. Byrrh is a pleasant, somewhat full-bodied wine, with a distinctly bitter flavour. On further examination this flavour would appear to be due to the presence of tonic bark extractives. On extraction with ether a powerfully bitter residue was obtained which responded to tests characteristic of cinchona constituents. The wine is free from injurious bitters and serves as an agreeable and wholesome tonic and stimulant.

VAN HOUTEN'S PURE SOLUBLE COCOA.

(C. J. VAN HOUTEN & ZOON, WEESP, HOLLAND.)

It is a widespread but very erroneous notion that certain of the excellent cocoas manufactured in Holland contain added alkali. This impression has been mainly due to an error of interpretation of certain results afforded on analysis. As is well known, cocoa in its natural state or in the form of crushed bean is quite unfit for food. Cocoa, therefore, must be prepared. The first step in this process is to eliminate as far as possible the excess of highly indigestible fat, which is generally done by expression in hot bags. After this process the cocoa generally contains about 30 per cent., instead of over 50 per cent., of fat. It may still be considerably improved for dietetic purposes by so preparing it that it may be made more soluble in, but in reality more miscible with, hot water, milk, or other fluids. With this end in view the simple addition of an alkali, as carbonate of potassium, or, as in the German method, of ammonia, has been suggested. From the dietetic point of view, as was pointed out in THE LANCET

of June 20th, 1896, this resource is distinctly objectionable. By Van Houten's process (the original Dutch method) a real improvement in the manufacture of cocoa which considerably added to the dietetic value of the product was effected. In this process the cocoa is not at any time or in any way prepared or treated with carbonate of potash, ammonia, or other alkali. The impression that it was so treated arose from the fact that on burning the cocoa so prepared a strongly alkaline and an increased ash was obtained. As a matter of fact, the decoction of Messrs. Van Houten's cocoa shows a faintly, though distinctly, acid reaction. It is just as logical to conclude that claret contains free alkali. Claret is of course strongly acid, but on burning the acid residue of the wine a strongly alkaline ash consisting of potassium carbonate remains. The important improvement in the dietetic properties of Messrs. Van Houten's cocoa consists in the enrichment of the cocoa by the addition of a trifling quantity of certain neutral salts, which, it is important to add, are perfectly normal constituents of the cocoa itself. Far from being objectionable, this procedure is fully justified by the evidence of experience as to the increased dietetic value of the cocoa so prepared. In a recent analysis which we have made the results distinctly indicate the advantage of this method. Thus this cocoa yields a decoction containing a maximum proportion of the valuable food constituents of the bean; and, of more importance still, these are presented in a condition more easy of assimilation and digestion than in cocoa not so prepared. The addition of a free alkali is, we hold, objectionable, because we have reason for believing that it would act unfavourably on the nourishing and stimulating cocoa substances. When cocoa, for example, is treated with alkali, an ammoniacal smell is at once evolved, which is probably due to the decomposition of the nitrogenous stimulating substances, as theo-bromine. In Messrs. Van Houten's cocoa, on the contrary, there is absolutely no free alkali, while the method of preparation undoubtedly adds to its nourishing properties and, more important still, to its digestibility. It has been said that one of the objects of adding alkali to cocoa is to partly saponify the fat and thus give the decoction a rich and frothy appearance. There is absolutely no trace of soap, we find, in Van Houten's cocoa. The important effect of Van Houten's process is, however, to increase the miscibility of the cocoa with water or milk, and to enrich it by the addition of a small proportion of its own natural constituents. An important economy is thus ensured. This treatment further tends to develop that fine aroma and flavour which make cocoa an acceptable beverage.

"APPLE JUICE."

(THE APPLE JUICE CO., 143, CANNON STREET, E.C.)

This is a fermented beverage like cider with a small alcoholic strength. Analysis gave the following results: Alcohol, by weight 5·25 per cent., by volume 6·55 per cent., equal to proof spirit 11·49 per cent.; acetic acid, 0·39 per cent.; malic acid, 0·43 per cent.; total extractives, 8·55 per cent.; mineral matter, 0·31 per cent. The excessive amount of volatile acid or acetic acid is an objectionable feature in this analysis. This result is borne out by the unpleasant sour taste, which is quite different from that of the fixed acids of the apple. Acetification has evidently set in, in spite of the juice being preserved, as we found, with salicylic acid. This fact, coupled with the quantity of saccharine matters present, renders this preparation not as wholesome as it might be.

EASTON'S SYRUP PALATINOIDS.

(OPPENHEIMER, SON, AND CO., 14, WORSHIP-STREET, E.C.)

Palatinoids containing the equivalent of half a drachm of Easton syrup have recently been prepared. The contents consist of a bluish-grey, finely divided powder, containing phosphate of iron in an unoxidised condition, together with quinine and strychnine. The advantages of Easton's syrup in this form (that is, in a jujube, excluding the deteriorating influences of the air) are obvious. The formula is excellent and the constituents are preserved in their original state.

"CYMRALIS" TABLE WATER.

(R. ELLIS AND SON, RUTHIN, N. WALES.)

This effervescing water is bright, well aerated, and commendably soft to the taste. The water-supplies of North Wales are admirably adapted for the preparation of aerated waters since they are so pure. Cymralis, we find, is slightly and agreeably mineralised. The total solid matter amounted to 0·88 gramme per litre. It is slightly alkaline, the degree of alkalinity being equivalent to 0·25 gramme of bi-carbonate of soda per litre. This, coupled with the purity of the gas employed, accounts for the peculiarly soft flavour of the water.

SANITAS DISINFECTANT SOAP.

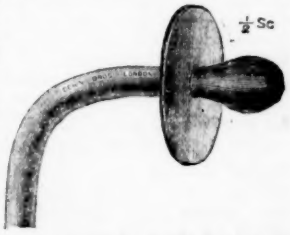
(THE SANITAS CO., BETHNAL GREEN, E.)

Sanitas has the distinct merit that though a decided disinfectant it has an agreeable smell. Further, it is quite compatible with soap. A specimen of sanitas soap recently submitted to us had somewhat the appearance and character of soft soap, but it proved to be a neutral soda soap, free from irritants. It evidently contains a good proportion of sanitas oil. For cleansing and detergent purposes it should answer admirably.

New Inventions.

AN EFFICIENT DRAINAGE PLUG.

FOR some two years past in cases where it has been necessary for me to make a permanent opening into any of the viscera, my attention has been specially directed towards devising some plan to relieve patients from the extreme discomfort which arises from lack of proper plug or conduit, and after repeated experiments I have now decided upon a very simple plan, which has proved so eminently satisfactory that I am sure it will meet the well-known difficulties of such cases. As shown in the diagram it consists of a tube with a flange and a pear-shaped expansion at the end, which is inserted into the viscus. This with a plug or clip answers well for gastrostomies. For the gall-bladder, &c., it is only necessary to attach a receiver. My experience with this plug has been so satisfactory in the already mentioned operations that recently I have tried it in a case of left inguinal colotomy, simply dispensing with the tubing portion and keeping it in position by a hollow padded colotomy truss; it is answering most satisfactorily. Simple as the contrivance is, it has only been arrived at after numerous experiments as to shape, &c., and correctness in these details is essential. I now find I can effectually plug without distending the opening, so that it is not necessary to be constantly changing the size; and, again, the action is in some respects automatic, as a sudden impulse, such as coughing and the like, tends to expand the pear-shaped extremity so that it neither allows of its own expulsion nor the escape of fluid by its side. The particulars I have mentioned govern the construction of the plugs when employed for any purpose, but it is essential to have them made of a suitable size and with suitably shaped necks to meet the requirements of each case. Such details can be had from Messrs. Down Brothers, 21, St. Thomas's-street, London, S.E., who have afforded me invaluable assistance in carrying out the experiments.



Cavendish-square, W. W. ARBUTHNOT LANE.

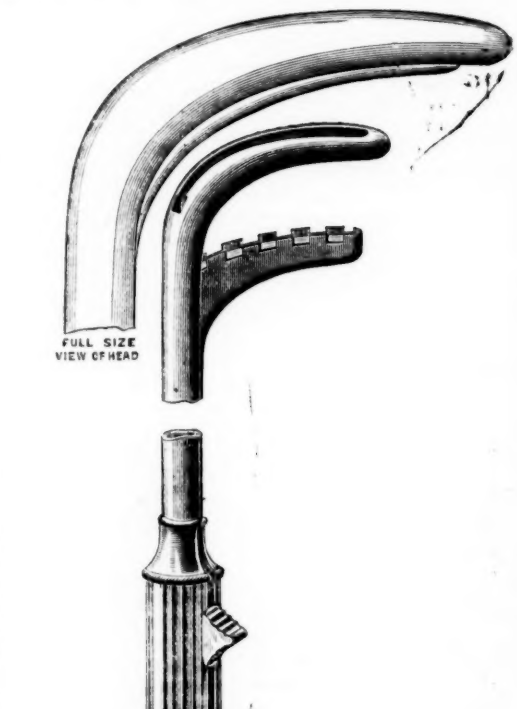
EMERGENCY INFUSION CANNULA.

MOST obstetricians carry with them the plain syphon douche as used at the Rotunda and other leading maternity hospitals. This douche is easily kept aseptic, it can be used with any vessel or receptacle and it reduces to a minimum the risk of air passing with the stream. All that is necessary to make it available for intravenous injection is to have a cannula to fit into the syphon tube. The cannula now described is enlarged at the upper end to prevent it from slipping, and the opening at the extremity which enters the vein is terminal instead of at the side, so as to avoid risk of air remaining in the blind end. Its case being made of metal can be rendered aseptic by boiling, and contains a couple of specific gravity beads indicating 1030 and 1028. The cannula is simple, inexpensive, and easy to carry. Its shape ensures its lying easily in the vein, it is always ready for instant use, and can be employed without a skilled assistant. The requisites for the operation are the syphon douche, the cannula, large and small jugs, a spoon, boiling water, cold boiled water if available or tap water, and, lastly, common salt. Scald thoroughly all utensils to be used and boil the spoon. Make a saturated salt solution in the small jug. In the large jug mix two or three quarts of water as near 98·4° F. as possible, tested by aseptic thermometer, or by pouring on the back of the hand. Add a specific gravity bead and pour in the salt solution till the bead rises to near the surface, mixing thoroughly with the spoon. The solution is now ready for infusion. Put the syphon end of the tube into the jug and start it running, then put the catch on the lower end of the tube, leaving it full and ready to run. Now expose the median cephalic vein, but do not open it. Next insert the cannula into the tube with the following precautions: First, let the stream run into the warm water in the basin to ensure all air being out of the tube. While still running insert the cannula under water. That these precautions are necessary is proved by the fact that at any gynæcological clinique the ordinary vaginal glass nozzle may be seen at any time half full of air when the douche has been running some little time. With the cannula running, open the vein rapidly and insert the cannula still running; tie in if necessary. Observe the level in the reservoir and allow to flow till a pint and a half or two pints have entered the vein. Whisky or brandy should be added to the douche in the proportion of a tea-spoonful to a pint. Messrs. Arnold and Sons, of 31, West Smithfield, are the makers.

W. C. HOSSACK, M.B., C.M. Aberd.

AN IMPROVED PATTERN OF "GIANT" LITHOTRITE.

I WOULD direct the attention of those interested in the surgery of stone in the bladder to an improved "giant" lithotrite, which at my suggestion, Messrs. Weiss and Son have devised and constructed, for dealing with very large calculi by perineal lithotrity. Surgeon-Captain Henry Smith, Civil Surgeon, of Jullundar, when stationed at Guzerat in the Punjab, devised the "giant" lithotrite described by me in my recent notes on stone in the bladder.[1] Some defects were found in this instrument, which have been remedied in the improved pattern figured in the annexed plate. Experience has taught us that suprapubic lithotomy has not fulfilled the early promise of the days of its revival, for the mortality which has followed it in cases of very large calculi occurring among males at the middle period of life is very considerable. There is therefore a growing consensus of opinion among surgeons practising in the East, where cases of very large calculi are of frequent occurrence, that perineal lithotrity, whether median or lateral, will in the near future supersede suprapubic lithotomy in dealing with this very important class of cases of stone in the bladder. There need, however, be no rivalry between perineal lithotrity and litholapaxy; rather should they be considered complementary one to the other. This improved instrument is made on the model of an ordinary Thompson's lithotrite, with the following exceptions. The male blade, instead of being joined to the screw at the handle end, is for greater strength left in two parts, the one terminating at the button, by means of which it is withdrawn, the other or screw portion working independently through a fixed collar at the end of the handle instead of by means of the usual forceps catch. In the place of the wheel it has a large winged handle 4¼ inches across, which gives an extra purchase in working. The dimensions of the instrument when closed are: Size over all, 18 in.; size of blades, 11 in.; size of hollow handle, 5 in.; size of stem, No. 20; size of stem at angle, No. 25½; size of point, No. 16. The jaws stand 2¼ in. for female



[1] THE LANCET, Jan. 30th, 1897.

and 2 in. for male blade above the shaft, and open sufficiently wide to take a stone of a diameter of over four inches. This instrument can be readily passed into the bladder through a small lateral incision in the prostate, or through an incision made as in median lithotomy, and it will readily break up a hard calculus weighing between six and eight ounces. The calculus thus crushed can be withdrawn from the bladder by forceps, or removed by means of an aspirator attached to a very large evacuating cannula, according to the predilection of the surgeon. The operation is completed in a short space of time, a matter of vital importance in such cases, and the neck of the bladder and prostate are not strained and bruised in an endeavour to extract a large calculus whole through the perineum. I feel confident that the mortality which has hitherto followed suprapubic lithotomy in dealing with very large calculi occurring among men at the middle and advanced periods of life will be greatly diminished by carrying out a perineal lithotrity in such cases.

St. James's-square, S.W. D. F. KEEGAN, F.R.C.S. Eng.

ASYLUM REPORTS FOR 1896.

Nottingham Borough Asylum.—On Jan. 1st, 1897, the number of patients amounted to 601. The accommodation provides for 585 patients, so that the asylum is overcrowded, and the position so created constitutes a serious difficulty to the management. Plans for enlarging the buildings have been passed, the asylum committee are anxious that the work should be commenced, but the Council refuse to move in the matter. In his report Mr. Powell, the medical superintendent, remarks that if the present progressive rate of admissions continues it will be necessary either to refuse fresh cases or to transfer chronic cases to some other asylum, although he confesses he does not know where the requisite accommodation is to be found. Every effort is made to discharge suitable cases to the care of relatives, but, as in all large towns, the conditions are unfavourable for maintaining and caring for chronic lunatics in their own homes, and it frequently happens that they are speedily returned to the asylum as unmanageable. In referring to the recent special report of the Lunacy Commissioners regarding the alleged increase of insanity, Mr. Powell states that, taking into consideration the whole of the causes of accumulation adduced by the Commissioners, he is unable to satisfy himself that they altogether explain the very large increase in the population of his asylum, and he is reluctantly obliged to conclude that in Nottingham there has undoubtedly been a substantial increase in the incidence of insanity in recent years. During the year 1896 there were 168 admissions, 65 recoveries, and 49 deaths. A feature in the admissions was the large preponderance of melancholiacs, both male and female, and 26 of the cases were directly attributable to mental anxiety due to adverse circumstances, domestic trouble, &c. Intemperance in drink accounted for 32 cases; 21 patients died from general paralysis; and 44 post-mortem examinations were made. The Commissioners in Lunacy report favourably on the management of the asylum.

James Murray's Royal Asylum, Perth.—Dr. Urquhart's remarks are always instructive, and this report forms no exception to the rule. He favours early discharge, and states that in face of a threatening relapse in a convalescent patient the question must be anxiously considered whether immediate removal from asylum surroundings is not the best course in his interests. In discussing the question of chronic alcoholism Dr. Urquhart makes some pertinent remarks, and in view of pending legislation his words may be quoted with advantage: "Twelve patients suffering from the results of chronic alcoholism were admitted. This is a larger number than usual. To it should be added one whose treatment was necessary on account of her succumbing to opium habit. There is no practical difference between these two classes—they seek oblivion, and it matters little whether the poison be whisky or morphia. A few were habitual drunkards, but the great majority were driven to excess by worry and consequent failure of mental health. The usual train of causes, in fact—first, an inherent weakness; second, a period of stress; third, a consciousness of failure and an endeavour to mend matters by calling in the powers of darkness to aid—excess and ruin in the end. A new heaven and a new earth must arise before this tale of misery is complete. I offer no suggestion other than has been approved by experience—the amelioration of social conditions. This includes a wider and deeper recognition of the laws of health, a wider and deeper appreciation of the interests of humanity. It cannot be in the interests of humanity that habitual drunkards are permitted to work their own destruction and the ruin of their families without such legal restraints as are imposed upon other dangerous members of society; and it bears especially hard upon those who become inebriates by reason of the inherited weakness of their physical and mental constitution. The times are ripe—indeed, over-ripe—for the wholesome restraint of those who are thus bent on ruin."—The value of the use of thyroid extract is exemplified by the recovery of a patient who suffered from a sharp attack of mania, followed by secondary dementia of sixteen months' duration. The Lunacy Commissioners (Scotland) record their appreciation of the excellent order of all parts of the asylum and the satisfactory condition of the patients.

Glasgow Royal Asylum, Gartnavel.—During the year 1896 there were 112 admissions, 41 recoveries, and 31 deaths. Brain diseases were, as usual, by far the most frequent cause of death. The mean age at death was fifty-four years. Dr. Yellowlees is of opinion that the apparent increase of insanity is due to the fact that many brain conditions—such as imbecility, senility, and childishness following paralysis—which were not formerly regarded as insanity are now classified under that category. His conclusions regarding the prospect of recovery in insanity, omitting cases of imbecility or of mere senility, are broadly stated thus: Of twelve persons attacked by insanity, one half will recover and the other half will not recover; of the six who recover, one half will remain permanently well, while the other half will become insane again once or oftener in the course of their lives, and will eventually die insane. This is in accordance with the views expressed by the late Dr. Hack Tuke after a minute study of available statistics. The Commissioners state that the asylum is conducted with great ability and that it well deserves the confidence of the public.

Royal Lunatic Asylum, Montrose.—In his report Dr. Howden complains that many of the patients were admitted in a dying condition, and expresses the hope that the new Form of Certificate of Emergency issued by the General Board of Lunacy (Scotland), in which a medical man is required to certify that the patient is in a sufficiently good state of health to be removed to the asylum, will prove a check to the practice of sending patients in a dying condition. With regard to the allegation sometimes put forward that asylum attendants are liable to become insane, Dr. Howden's experience leads him to believe that this is an entirely erroneous impression. He has met with cases, however, outside asylums where the association of the sane with the insane seems to have had a prejudicial effect on the former. He gives several instances where this has occurred. The death-rate amongst the male patients was higher than usual, but was due to the causes already stated. The wards are somewhat overcrowded, but the resulting evils are diminished as far as possible by careful attention to ventilation and sanitation, and by giving the patients abundant exercise in the open air. Since the publication of this report Dr. Howden has retired from the active management of the asylum. He has had a long, useful, and distinguished career, and during his tenure of office the Montrose Asylum has occupied a leading position amongst the institutions for the care and treatment of the insane in Scotland.

Aberdeen Royal Asylum.—During the year 1896 the admissions numbered 207, the recoveries 95, and the deaths 55. Dr. Reid, in his report, calls attention to the large number of deaths at this asylum from general paralysis and from phthisis. On Aug. 3rd, 1895, a new hospital, without which no asylum can now be called complete, was opened. Its design and arrangements seem to be admirable in all directions, and provision has been made in a most efficient and liberal manner for the care and treatment of the sick, the acute cases, and the infirm. Dr. Reid, in directing attention to what may be termed borderland cases, very properly remarks that there are many such at large in the world who do not overstep the limit between sanity and insanity, as at present legally recognised, but who might, with much advantage to themselves and the community, be placed under some suitable supervision. "The institution continues to be managed with great ability and success" (Commissioners' Report).

THE LANCET.

LONDON: SATURDAY, JULY 3, 1897.

THE two English Medical Colleges have been appealed to by the medical men of Norwich and others, who are impressed with the conditions of medical practice as revealed in the existence of new combinations of friendly societies, of commercial companies that know no more of medicine than they know of law or divinity, catering wholesale for the medical attendance of the working classes and for many comfortable people who cannot be included in such classes. The Royal College of Surgeons of England has not yet given its opinion on the subject of canvassing and advertising for patients. It has excited hope, inasmuch as it has referred the question of its own powers in such matters for legal opinion and advice. But both it and the Royal College of Physicians of London have shown a marked reluctance to use their powers of censure and remonstrance against methods which, if used by any private and individual member of the profession, would render him clearly obnoxious to those by-laws of the Colleges which are supposed to provide punishment for unprofessional ways of procuring practice. Of such by-laws the following are specimens.

The Royal College of Physicians of London has this by-law:—

"No Fellow or Member of the College shall officiously or under colour of a benevolent purpose offer medical aid to, or prescribe for, any patient whom he knows to be under the care of another legally qualified medical practitioner."

It has another by-law, which enacts, among other things, "that if it shall appear that a Fellow or Member or Licentiate has ..... acted in any respect in a dishonourable or unprofessional manner ..... the President and Censors may call the offending Fellow, Member, or Licentiate so offending before them, and having investigated the case may admonish or reprimand or inflict a fine not exceeding £10," or for graver offences may report to the College, which may proceed to deprive the offending person of his Fellowship, Membership, or Licentiateship, as the case may be.

The Royal College of Surgeons of England has this by-law:—

"If any Fellow or Member of the College shall, after due inquiry, be judged by the Council to have been guilty of disgraceful conduct in any professional respect, he shall be liable to removal by resolution of the Council from being a Fellow or Member of the College."

The by-laws of other Colleges are not dissimilar. Thus the Royal College of Physicians of Edinburgh has the following:—

"Any Fellow, Member, or Licentiate who shall, after due inquiry, be judged by the Fellows to have acted in an unbecoming or unprofessional manner may be censured, or may be deprived for such time as the Fellows may determine of all the rights and privileges which, as Fellows, Members, or Licentiates, they may enjoy."

The other Scottish Corporations have similar by-laws.

And a by-law of the Royal College of Physicians of Ireland says:—

"Every candidate before admission as a Licentiate engages not to endeavour to obtain practice or to attract public notice by any unworthy means, nor to sanction the use of his name by any other person for such purposes, and in case of doubt to submit to the judgment of the College."

The Royal College of Surgeons in Ireland by Ordinance 36 enacts that: "No Fellow or Licentiate of the College shall seek for business through the medium of advertisement or by any other disreputable method."

There are two great evils complained of by medical men, which have been powerfully exposed in the series of communications by our Special Commissioner under the title of "The Battle of the Clubs." The one is the crowding of huge numbers of persons into one Association, to be attended by one or two medical officers for a low sum and under conditions in which proper attendance, and even diagnosis, is impossible. The other is the system of canvassing and touting by which crowds of persons are attracted to such associations, often from the care of their own private medical man, to whom they are quite able to pay reasonable fees. We admit that *primâ facie* it is a difficult thing for a medical corporation to dictate the pecuniary terms on which its Licentiates shall give their medical services, but it surely must be admitted that the corporations can judge of the conditions under which medical diagnosis and treatment are possible, and it is not unreasonable to require of them, in any given case where the conditions are such as to make them impossible, to use some of their powers of remonstrance and of censure. In regard to the offence of canvassing and touting their duty seems still more plain, whether we regard the letter or the spirit of the above by-laws. We anticipate the objection that the medical officers do not personally canvass or instruct the canvasser, but they are the servants of those who do use means to draw all sorts and conditions of men away from their advisers and into associations which make a sort of trade of medical practice. They accept from such associations appointments which constitute an introduction to practice—often to the patients of other medical men who are undersold. It is difficult to deny that this system of canvassing by associations threatens great branches of general practice with ruin or that the medical man who acts for the association is morally responsible for the system. Without his help it would be inoperative and ineffective. We do not wish to see the corporations act with haste, but we do wish to see them act with more force and firmness than they have hitherto displayed. Suppose these evils were to spread to the upper ranks of practice—that consultants to attract numbers lowered the guinea or the two-guinea fee to 2*s.* 6*d.*, and that they put themselves under commercial companies which canvassed and touted for them, would the corporations be as apathetic as they are? We think not. We do not doubt that they would find ways of maintaining the dignity of medical duty and of medical remuneration. They have a far larger obligation to use what powers they have, and if these are inadequate to seek stronger ones, to compel their Licentiates in the larger field of general practice to refuse appointments which turn medical practice into a farce, and

which involve canvassing and foul play to the private practitioners of the country.

IN India there is no such thing as medical registration, nor is there any Medical Act in that country to govern or regulate the conduct of practitioners of medicine, to protect them in the exercise of their calling, or to defend the public from the practices of quackery in its many guises. That such a state of confusion and irregularity should exist and continue in a dependency of the British crown where medical education has been more or less supervised by the State for the past fifty years is most surprising, and it is all the more regrettable in view of the fact that the medical societies and medical associations, as well as the medical and lay journals of India, have one and all from time to time during the past decade represented to the Government of India the urgent need that exists for some form of medical registration in the mutual interests of the profession and of the people.

Medical education in India aims at providing the public and the State with varying classes of practitioners. Thus, the Indian Universities, the qualifications of which are recognised by the General Medical Council of Great Britain and are registrable in this country, confer on their graduates the degrees of M.D., M.B., and L.M.S. Their preliminary educational standard is a degree in arts, and their professional curriculum, which is a very complete one, has always required a five years' course of study. Outside the Universities, India provides no other qualification which ranks as a registrable diploma, nor indeed, is there any other diploma which from its intrinsic merit could at present deserve the status of a British registrable qualification. So that for the present, so far as registrable qualifications on the basis of the General Medical Council's requirements are concerned, we have only to deal with the graduates of the Indian Universities. Having obtained what are State passports to practise medicine, having paid into the State coffers the cost of a full curriculum for a period of five years, and possessing a guarantee from the Government of India as to their ability as physicians and surgeons, it seems only reasonable to expect that they should receive some protection from the State, such as is afforded to duly qualified practitioners in this country by the provisions of our Medical Acts and system of registration. There ought to be no difficulty in legislating specially for medical practitioners in India, but if there are obstacles in view of the varying grades of otherwise orthodox practitioners and the confusing number of unorthodox indigenous classes of the Vaid, Kobiraj, and Hakimi sects, then an easy way out of the difficulty would be to extend the Colonial Section of the British Medical Register to India, and enforce entrance to its rolls on all Indian University graduates by making the enjoyment of certain rights and privileges conditional on registration. If, for example, the Government of India were to promulgate an order in its *Gazette* that for the future no registrable practitioner in India could obtain any State appointment or have any legal status unless his name was to be found in the Colonial Section of the British Medical Register an immediate blessing would be conferred on both the public and the medical profession in India, without any additional legislation. A Section of the Medical Act is now applicable to India, so that registrable qualifications have the right to immediate registration, and therefore it is only necessary, as it seems to us, for the Government to enforce submission to the conditions of the existing British Medical Register. The Indian medical profession would thus obtain a definite status in the body politic. This step would place the professional conduct of Indian medical graduates under the cognisance of the General Medical Council, and prove a salutary measure, raising the tone of Indian medical practice. It seems clear that this is a matter in which the General Medical Council might legitimately take action by inviting the Government of India to consider this method of registration in the interests of medical education and for the advancement and protection of the medical profession in that country. This necessary interference by the General Medical Council may, with some show of justice and urgency, be claimed for a body of our brethren who number some thousands on the rolls of the Indian universities, and who from the absence of specific legislation in medical matters in our Indian Empire are virtually devoid of legal status and absolutely without legal protection of their rights and privileges as properly educated and duly qualified medical men.

With regard to the extension of a system of registration to a large and important class of practitioners who are educated for employment in the subordinate services of the Indian Government, and to those who work chiefly among the poorer sections of the Indian people, they might still find suitable recognition and protection by their inclusion in a purely Indian Medical Register. It would, of course, be always open to these grades of medical workers to be admitted to the British Medical Register when their education and qualifications had been improved up to the necessary standard. We notice that in 189 a "Medical Register and Directory of the Indian Empire" was compiled by Dr. JAMES R. WALLACE, of Calcutta, in which all the various sections of the medical profession in India were embraced in their different grades. Some such compilation as this, if brought out under State authority or cognisance, would pave the way to a State system of registration. The question seems to us worthy of the consideration of the Government of India and of the provincial Governments of the Indian Empire.

COMPLAINTS reach us from time to time of the insanitary way in which some night shelters are conducted, and from private investigations which we have made we fear that these complaints rest upon a substantial basis. The Public Health and Housing Committee of the London County Council have on several occasions dealt with the matter casually, and with a view of obtaining more information they instructed Dr. C. W. YOUNG to inspect premises in London where the homeless are temporarily provided with night accommodation in rooms which they occupy in common. Dr. YOUNG'S report has now been printed with a prefatory note by Mr. SHIRLEY MURPHY, the medical officer of health of the administrative County of London, and the document is one which deserves careful perusal. A

mass of important information is presented in a succinct and orderly manner, and the fact that it comes from a body like the London County Council must disarm the criticism of those who assert that complaints made by private individuals in this connexion are actuated by bias and prejudice.

In addition to the large number of common lodging-houses which come under the provisions of the Acts applying to them there are in London a number of night shelters for the homeless poor where either gratuitously or at a charge ranging from 1*d.* upwards sitting or lying accommodation can be procured under cover for the night. These institutions are generally conducted by some religious body from the best of philanthropic motives, though not in all cases in the best of sanitary methods, and though good results may sometimes follow they are often attended with evils which far outweigh them. Although a charge may be made for the accommodation provided, the proprietors of these shelters do not professedly run them for a profit, and the buildings are exempt from the same sanitary supervision which obtains in the case of the registered common lodging-house. Of course, a medical officer of health can treat them as he does private premises, but practically he can only demand admission between the hours of 6 A.M. and 9 P.M.—a period during which the buildings are necessarily empty. He can obtain an order from a magistrate for a right of entry at any time it is true, but the process of applying for an order may give the shelter officials, if they are so disposed, ample opportunity of frustrating the good which might result from such order.

It cannot be denied, however, that whatever the evils of these institutions may be, they certainly do provide a home for those who cannot avail themselves of the better-class lodging-house, and who would otherwise either have to find shelter in the casual ward or remain throughout the night in the streets. If the shelters provided by philanthropic bodies were subject to the same supervision as the registered common lodging-houses it must be quite evident to all who have visited these institutions and listened to the statements of the officials themselves that accommodation for the homeless would be less adequate than it is even at present; for there is no doubt that some of the shelters are overcrowded, and consequently the existing provision would have to be lessened. By some it may be urged that the State has made provision for the absolutely destitute, and to a certain extent this is true. But the State provision at present is perhaps not all that could be desired, and it is an open question whether, after all, the casual system does not tend in the long run to aggravate an evil which it is intended to remedy. On the other hand, we must consider not only the individual but the community at large, and if some of these shelters are liable, as we believe they are at times, to become hotbeds of infection, owing to insanitary conditions both of the house and its inmates, the sooner these shelters are brought under more efficient control the better for all concerned. We have it on the authority of one who, if not the absolute head, holds an important position with regard to the management of a large proportion of night shelters, that the body with which he is connected is willing to loyally abide by whatever Acts are passed by Parliament to regulate the control of these shelters. This statement is significant; and it is to be hoped that the London County Council will adopt the suggestion of their medical officer of health and apply to Parliament for the amendment of the definition of a common lodging-house so as to bring shelters within the provisions of the Acts which apply to common lodgings let for profit.

WE wish to call attention to the very temperate and accurate description given by a correspondent in a letter in another column of the difference between the intention of the founders of the examination for the Fellowship of the Royal College of Surgeons of England some fifty years ago and the practical result at the present time. When founded the Fellowship was expected to be merely a higher grade for Members who wished to give a longer period to surgical study, to work hard at surgical anatomy, and to show themselves quite proficient in practical surgery. At the present time the primary examination for the Fellowship is at once the most difficult and the most uncertain examination in its results at which any candidate in the kingdom can be tempted to present himself. In the first place, the constitution of the Board of Examiners is quite anomalous. The examiners in anatomy are all Fellows of the College, and are, to a certain extent, unconsciously biased towards a limitation of the number who should also enjoy their privileges. The privileges of a Fellow are very obvious ones. He can vote for those Fellows who desire to sit on the Council of the College and can alone be elected to a surgical office in most of the London and provincial hospitals. Candidates with University degrees in surgery who are not Fellows of the Royal College of Surgeons of England are debarred by the by-laws from holding office as surgeons or assistant surgeons in the largest and most important of all our English hospitals. This rule at once secures a close corporation. In the next place, not being able apparently to find amongst its own Fellows a sufficient number of advanced physiologists to examine at a high standard for this qualification, the College enlists from outside some of the latest investigators into this ever-progressing, or at any rate ever-changing, branch of science, and with what result it is easy to imagine. Further, another element of confusion is the inclusion of comparative anatomy. Attendance on a course of lectures on this subject is required from every candidate, but no syllabus is drawn up for his or his teacher's guidance. Generally none is required, but any examiner, acting on his individual knowledge and proclivities, may ask any morphological or developmental question that he may choose. The candidate must be possessed of an encyclopædic memory, for the practical examination is *nil*, and the *viva voce* depends on the personal equation of each examiner, whilst the written part is the great feature of the competition, and the questions set have rarely any bearing on surgery or practical surgery, but are based on questions of pure anatomical and physiological details. Can we wonder that under such circumstances over 70 per cent. of the candidates are rejected? Everything in the examination is against the examinee, and the time limit in the *viva voce*, with the limited numbers of

the questions—four in each paper and no choice—proves the last straw to many a deserving and hard-working student and practitioner. Surely such an education in "cram" is the worst that could be devised for our future surgeons, and would cause the surgeons of the past generation to "turn in their graves" if they could only know what had become of their excellently practical scheme. The examination is at the present time only a field for intellectual gladiators in competitive examinations to exhibit their abilities, and is absolutely devoid of consideration as a training ground for practical surgeons. It is now quite an anachronism, and the examination has still more glaring defects than those which we pointed out some twenty years ago. Collegiate privileges should be divorced from a pure examination test, and the surgical appointments at our hospitals should not be restricted within such narrow limits as those which seemed expedient to our predecessors in the earlier days of the century.

Annotations.

"Ne quid nimis."

THE DIAMOND JUBILEE COMMEMORATION.

THE rejoicings and spectacular displays commemorative of Her Majesty's reign of sixty years have ended, and the nation may look back upon the occasion with sincere satisfaction. Such a spontaneous demonstration of affectionate loyalty and of unity has probably never taken place before in the world's history. Responsibility and power must go hand-in-hand, and it would ill-become the people of this country to recognise the power and forget the responsibility of the British Empire. What have been the most striking reflections to which this Jubilee has given rise? In the first place, we owe it to the peoples and Governments of the rest of the world to state that the most gratifying and brightest fact in the history of this commemoration has been the sympathetic magnanimity which they have displayed towards the Queen and this country. On all sides the expressions have been most generous and cordial on the part of other powers and peoples, and the fact has left behind it a peculiar sense of grateful appreciation; and, in truth, there was nothing aggressive or of menace in all the display that has been exhibited. This is a free country, and its inhabitants are a law-abiding people with a keen love for freedom and good government everywhere. It is not a mere phrase, it is a fact, that the British Empire is peace. The admirable organisation and excellent arrangements by which everything has passed off so well, and the splendid conduct of the people—their enthusiasm, cheerfulness, good temper, and forbearance—must have struck everyone. The Queen is a wise sovereign and a good woman, and her people were determined, so far as their conduct was concerned, that nothing should frustrate or mar the effect of the expression of their loyalty and trust, and Her Majesty manifestly must have felt in full force the pride and pathos of her position as the vast crowd spontaneously burst forth in singing the National Anthem and compelled the bands to adopt and follow their lead. The people felt that the Queen had never for dynastic or selfish purposes, deceived or distrusted them, and the throne of England, supported on the shoulders of a democracy, is not only the most stable throne in the world, but the occupants of all the others really owe it a debt of gratitude in this respect for the strengthening influence of the fact. Then, again, there was a unity of sentiment, spirit, and purpose running through all classes, from the costermonger to the peer, as they recognised the emblems and tokens of the vast Empire in the streets of London—the roots extending from Great to Greater Britain—of which the Queen was the representative and symbolised embodiment. That the President and people of the United States should have been foremost in their expressions of kindly sympathy was to be expected and could be counted upon, but that France, our nearest neighbour, should indulge in no word of envy, jealousy, or cynical coolness towards this country, but, in the spirit of that old chivalric generosity which has always characterised her, should have "let herself go" in kindly expressions of friendly admiration was most gratifying. The easy, pleasant manner in which the crowd obeyed the police, protected women, and showed their kindly disposition to children; the way in which they abstained from smoking in order to diminish danger and annoyance; the fact that the number of cases at the London police courts following the Jubilee procession did not exceed those of an ordinary Monday morning; and the absence of crime, and of all panic and serious accidents, may well make us proud of the conduct of those present in the streets of London on that occasion. The police, the navy, the military, the London County Council, and the people have, one and all, played and performed their allotted parts most creditably; nor do we believe that the effect of all that has taken place during the acute stage of jubilation fever through which we have just been passing will be lost on those from abroad who have honoured us with their presence in this country.

THE ATTITUDE OF THE MEDICAL PROFESSION TOWARDS THE PROVIDENT PRINCIPLE.

A THOUGHTFUL and fair paper on Provident Dispensaries and the Medical Profession, by Mr. Charles H. Warren, secretary of the Metropolitan Provident Medical Association, is published in the *Charity Organisation Review* of February, 1897 (Longmans, Green, and Co.), and should be read by all medical men. It deals with the subject of provident dispensaries and the principles on which they should be managed and governed, as well as with the causes which have hindered their success, which may be said to be principally two—first, the competition of free hospitals, and, secondly, lack of support from the medical profession. The first cause of the slow progress of provident dispensaries, the competition of hospitals, is obvious. Such dispensaries are found not to thrive in the neighbourhood of free hospitals, though, by way of proving the rule, there is one exception just opposite the London Hospital. Mr. Warren gives a striking fact in illustration of the unfitness of a large proportion of hospital patients. It is the result of an experiment for which the Hospital Saturday Fund and the Metropolitan Provident Medical Association must have the credit. The Hospital Saturday Fund found the applications for letters for chest hospital treatment so numerous that additional letters had to be purchased. They agreed with the hundred medical officers of the Provident Medical Association to examine cases applying for such letters and to certify fitness for such relief. Each applicant was required to produce a certificate before getting a chest letter. The result was that only 226 returned with the necessary certificate. No less than 238 did not see fit to submit themselves to examination. Of the total number applying for chest letters only 152, or 32 per cent., were considered proper cases for hospital treatment; the remaining 68 per cent. were kept away from hospitals because of their unsuitability, and for those treated at the dispensaries the medical men have received such remuneration as the rules of the dispensaries provide. Mr. Warren is quite right in believing that there has been a coldness of late years on the part of medical men

towards provident dispensaries and in saying that till this is removed they cannot succeed. The admission of unfit members, the poor terms of remuneration, and the practice of more or less touting or canvassing are the explanations. He asserts that in all the more recent provident dispensaries there is a wage limit. We are glad he entirely approves the wage limit, though he says it must vary in different districts. He thinks medical men in organising provident dispensaries are tempted to make the wage limit too low and the fees too high. Whatever their temptations, they have had no success in getting too high fees. The objection to canvassing he meets by saying that more or less of it is indispensable, but that the names of the medical men should not be published. It is a poor satisfaction to a medical man who has lost a private patient that he was captured by an advertisement or handbill of a dispensary not containing the names of the medical officers. As to the fees to be paid, he defends the scale of the committee of which the late Sir Spencer Wells was chairman. But it is too low in these days of high wages and costly medical education. Fourpence-halfpenny or sixpence per attendance is an entirely absurd sum for a medical consultation, and it will only be by making every visit a true consultation, however short, that the character of medical attendance among the working classes will be maintained. It is most essential that the medical profession should accept the provident principle. If they do not they will only play into the hands of competing hospitals and commercial companies. But the advocates of provident dispensaries must conceive more adequately of the value of medical service.

GARBAGE AS AN AUXILIARY SOURCE OF ELECTRICITY.

IT is interesting to notice how problems directed to the disposal of noisome things have been at length grappled with from the point of view of utility also. The enormous waste of material of priceless agricultural value, as sewage must be, has been a standing reproach to that section of our administration which deals with great sanitary questions. There is hope, however, even in this matter that sewage will no longer be ruthlessly disposed of but turned to excellent account. And we have been learning all this time that nature provides us with myriads of engineers in the form of microbes to do this work if only we will give them a chance, or, in more scientific terms, place them under conditions favourable to their operations as scavengers. Dust again has been a source of abomination to the public and to every municipal authority since the days when it was rejected as no longer economically useful by the brickmaker and house builder. At last fire was employed, in the form of the "destructor," to put an effectual end to its tendency to putrefy and hence to corrupt the air. So far, so good; but this method aimed, like the thousand and one methods of chemical treatment in the case of sewage, at mere disposal only, and the removal of a nuisance without the least pretence to utility. The "destructor" was not, however, in all cases a satisfactory machine, since in the energy of combustion a shower of dust and ashes was produced and scattered in the immediate neighbourhood of the shafts. The days of the non-utilitarian "destructor" are, however, numbered. It should give way shortly to a "converter." This at least appears to be the practical teaching recently afforded by the energetic vestry of St. Leonard, Shoreditch. The employment of garbage as auxiliary fuel to feed the engines driving dynamos for the production of electric light has been tried elsewhere before, but not satisfactorily either from the engineering point of view or the point of view of economy. The difficulty has been to utilise all the heat of combustion at all times, and to prevent formation of lava-like clinker. Judging from the satisfactory reports in the press of the Shoreditch installation, which was started by Lord Kelvin, these difficulties appear to have been successfully overcome. As far as we can gather, the success of this plant appears to depend upon an improved system of thermal storage, so that the heat accumulated by day may be stored and turned on to contribute to the increased requirements of the night. Everyone will hail with great satisfaction a step in advance in this direction, and we may take it that the presence of Lord Kelvin at the opening ceremony at Shoreditch on Monday last is some guarantee of a successful issue. In distinctly enthusiastic terms he congratulated the members of the vestry upon the energy and courage they had shown in carrying out ideas which had not previously been tested. It was an example, he added, of the amalgamation of scientific knowledge and forethought with mechanical engineering and skill.

THE PRINCE OF WALES'S HOSPITAL FUND.

A LETTER which appeared in the *Times* of June 29th from Mr. B. Burford Rawlings is well worthy the attention of all those who have the interests of our hospitals at heart, and especially those who, from want of thought more than from want of means, have not contributed at present towards the above fund. The annual subscriptions at present, says Mr. Rawlings, consist of £20,000 contributed by less than 5000 households instead of £112,500 contributed by 225,000 households. Mr. Rawlings pleads for a more personal element to be imported into the matter. The days of mediæval charity, when men gave houses and lands for the support of the poor and needy, have, we fear, gone by, and nowadays the only way of getting subscriptions is by persistent touting. A system of this kind well organised and under "distinguished patronage" would we feel assured open the purse strings of many who now do not subscribe at all. It is curious if we look at any subscription list to see the same names occurring again and again. Well-known wealthy men and a certain amount of anonymous subscriptions, which latter probably always come from the same persons, are to be found, but the rank and file of fairly well-to-do people are absent. It is a hard saying, but the majority of subscribers to-day want a show for their money; and whether they are working men subscribing to a hospital or others who demand letters, the position is the same—there is always the dread present to the hospital secretary's mind of the subscription being withdrawn. Perhaps if a sort of hospital Primrose League could be started it would solve the difficulty.

THE NATURE AND LOCATION OF LUMBAGO.

MR. JONATHAN HUTCHINSON[1] asserts, contrary to prevalent opinion, that the pain of lumbago is not in the lumbar muscles, or, indeed, in the loins at all; he has invariably found it to be in the sacral region, or in the sacro-iliac synchondroses. In the latter position it may be on one side only, but this is exceptional. There is so much peculiarity and definiteness about the pain of lumbago that it is a pity that it should not become an acknowledged type. Probably pain of a similar character occurs in other regions of the body. There are never any objective phenomena, and often there is little or no tenderness. It is a sleeping pain, and the thing that wakes it is not pressure, but movement. In many cases so long as there is no movement the pain is entirely absent, but the slightest attempt to alter the position of the back produces agony. The pain itself may be compared to sheet lightning; it is not exactly a single flash, but it broadens out and quivers from side to

[1] Archives of Surgery, April, 1897, p. 97.

side across the affected part, and leaves a hot glow behind it. The first attack is often very sudden and disables its victim for the moment. As it is one of the large group of phenomena which go with the inheritance of gouty tendencies and exposure to the exciting causes of rheumatism it will often not be present alone. Sciatica, hip-joint arthritis, and affections of the spinal articulations are amongst its most frequent companions. In these cases we must separate their several elements. Lumbago is variable and transitory, whilst the pain of the other affections is usually more persistent and independent of movements. Lumbago in severe forms may shoot down the back of the hips and simulate sciatica; but unless the sciatic nerve be affected it does not pass far down the limb, nor is it attended by pain over the nerve trunk or wasting of the muscles. The liability to lumbago once experienced usually lasts the rest of life, and is influenced by season, weather, diet, and exposure, just as gout and rheumatic gout are. Its subject may be quite free the greater part of the year, but suffer for a month or more in early spring. The treatment consists of active exercise, care in diet, and warm clothing, especially across the hips. During the presence of pain the sufferer should, if possible, move about, even if he can only do so with assistance and bent almost double. After a time he will find the pain subsiding. In severe cases, unless the patient is unusually resolute, exercise is out of the question. Then recourse must be had, if not to Graves's favourite plan of cupping, to blisters, sinapisms, or the use of heat locally. Internally alkalies, aconite, and colchicum should be given. The patient should drink plenty of hot weak tea. As to the structures actually involved, Mr. Hutchinson has no doubt they are the ligaments of the sacrum and the cartilage between the sacrum and ilium—the latter as the result of self-observation. The pain is too deeply seated to be located in the muscular fascia and too peculiar to belong to a structure so general.

POST-GRADUATE FACILITIES IN RUSSIA.

AT the ten Russian Universities and at the Army Medical Academy in St. Petersburg there are facilities for post-graduate study. Courses varying from one to three months are held in various special subjects, and the fee charged is a small one, averaging about half a guinea. All medical graduates may attend quite freely the wards of the clinical hospital or infirmary attached to the university, and there are abundant opportunities for graduates desiring to do original scientific work in the laboratories attached to the universities, the cliniques, and other hospitals. In St. Petersburg there is in addition a very handsomely equipped hospital reserved entirely for the clinical use of medical men; it is, in fact, a graduates' clinique. This is the Helena Institute, or, to give it its full title, the Imperial Clinical Institute of the Grand Duchess Helena Pavlovna. It is named after a sister of the Emperor Nicholas I., one of the most active, charitable, and philanthropic workers of her time, who among other good deeds introduced the practice of nursing by women into Russia, and whose memory is still green. The Institute has 108 beds; it receives poor patients freely; others pay from 10 to 100 roubles a month, according to the accommodation. The present director of the Institute is Professor Skliffosofski, who has been selected as President of the International Medical Congress in Moscow. Attached to all the Russian Universities and the Army Medical Academy are a considerable number of scholarships (stipendia) either instituted by the Government or by private individuals, the holders of which are entitled to remain attached to the university for one, two, or more years, and to carry on original work in the laboratories and wards. A certain number of graduates are annually sent abroad at the expense of the Government to study at foreign universities and hospitals. This applies not only to recent graduates, but also to men high in the profession, university professors, and others. In addition the *zemstvos*, or local governing bodies, to each of which is attached either a medical board or a medical officer, frequently send (at the expense of the *zemstvo*) their medical officials to St. Petersburg, Moscow, or some other university town to spend three, four, or six months in the wards and laboratories there. This admirable system enables a provincial medical officer to keep in touch with the advances made in medical science. The Government encourages it by granting sums of money from the Treasury to assist the *zemstvos* in carrying out the system.

AFTER MANY YEARS.

THE City has lately had to deplore the loss by death of two medical men who were prominent inhabitants and the holders of important posts. The first, Mr. Charles Hogg, F.R.C.S. Eng., who died at St. Leonards-on-Sea in his eighty-sixth year, was for many years medical officer to Merchant Taylors School, and used to live in Charterhouse-square. The second was Mr. Charles Hope Buncombe, F.R.C.S. Eng., who died in his eightieth year and who had held for more than twenty years the post of medical officer to the City of London Infirmary. It is wonderful to think of the changes, especially in preventive medicine, which these two gentlemen must have seen. Fifty years ago Smithfield and the neighbourhood was a perfect Inferno. The cruelty, the filth, and the absolute want of anything approaching to sanitation which were perpetually present in the market and the slaughter-houses can scarcely be believed nowadays, but if anybody cares for horrors let him read a series of articles which appeared in *Household Words* in the early fifties, entitled the "Cattle Road to Ruin." At present the City is perhaps the best drained, swept, and lighted city in the world, and the other parts of London are for the most part but little in arrear.

"SLY'S PATENT TRUSS."

THE sentence of eighteen months' imprisonment with hard labour passed by the Lord Chief Justice at the Oxford Assizes last week on Samuel Albert Sly, otherwise Albert Hodge, the owner of "Sly's Patent Truss," should prove a useful warning to the other rogues of his class who are daily defrauding the unsuspecting public by means of false and misleading advertisements and circulars. The quack is a firm believer in printer's ink and publicity, as he should be, for he knows full well that there are hundreds and thousands of the gullible public ready to swallow any rubbish that he may be pleased to provide if only he can find mediums to advertise it with sufficient boldness and indecency. The quack is also a firm believer in the written support of "grateful patients," and the majority of these parasites have hundreds of unsolicited "testimonials" in their possession, the originals of which, according to advertisement, can be seen on application. Should anyone be so unbelieving as to want to see the originals they are invariably as difficult to produce as were the man Sly's. Not that Sly's methods were quite bereft of originality. He scorned such stupid trickery as writing his own testimonials—a method which always must lack some little *vraisemblance* and which also requires the trouble of composition. Sly found it a far easier course to extract from the trade circulars of various truss-makers the most approvin criticisms of the medical press and the best genuine testimonials from patients, and to appropriate these as commercial and private testimony to the value of his own "truss." He merely altered the names of the places fro which the testimony emanated and the dates and signatures. Out of ten testimonials on his business circular nine were proved in evidence to have been thus "lifted," and yet,

humorous man, he put at the head of his circular an offer to show the originals on application! There was an extract from THE LANCET impressed into Sly's service, upon the strength of which, by the bye, the prosecutor, a mill manager at Blackpool, sent £5 for a truss. This particular extract appeared in our columns ten years ago, and was a commendation of a different appliance made by a manufacturer who is still in business in London. Sly added to the extract words which never appeared in THE LANCET, but the source of his inspiration was undoubted and indisputable. The value of "Sly's Patent Truss" may be gathered from the evidence given at the trial, one maker stating that it "was perfectly worthless," another that it "was not worth the brown paper it was wrapped in," and another that it "was a very bad thing altogether and not fit to be worn." And for this article £5 was the sum charged—about double the price of an ordinary truss—and to it complimentary things said about other and genuine instruments were calmly applied. Sly is no stranger to prison life, for he was sentenced at the Middlesex sessions, in the name of Albert Hodge, to seven years' penal servitude in 1888. He now goes to prison again, and we hope he will reflect upon the truisms contained in the opening sentences of this advertisement which we quote from an evening contemporary:—

Time proves all things. Honesty is the best policy. A hundred and seventy years ago one Sly set up his Truss Works in Oxford, and from that time down to the present the business has grown. Why? Because Sly's Improved Patent Truss, as worn by Sir Andrew Clark, and recommended by Sir B. W. Richardson, has been proved to be The Best on the Market. 44 Prize Medals, Diplomas, and Royal Appointments awarded. Write for particulars and Prices, Sly Bros., Oxford.—Advt.

The references to Sir Andrew Clark and to Sir Benjamin Ward Richardson constitute an outrage upon the memory of these eminent men; but Sly knew well that he was safe in holding out dead men as decoys. It is this particular piece of blackguardism, almost more than his misuse of our words, which makes us rejoice over Sly's fate and unable to enter heartily into the extravagant fun of the forty-four prize medals, the diplomas, and the Royal appointments. Yet the imagining of "Royal appointments" for a bogus truss shows imagination of no mean sort. This conviction should prove a salutary lesson to the dishonest individuals who do not hesitate to misquote THE LANCET to serve their own ends. They are not a small crowd, and many of them are known to us.

DEATHS OF TWO AMERICAN LEADERS IN MEDICINE.

WE offer our sincere condolences to the profession in America on the unexpected deaths of two of its most distinguished members as was announced in the last issue of THE LANCET. J. Lewis Smith, A.M., M.D., of New York, and William Thompson Lusk, M.D., LL.D., of New York, were equally pre-eminent in their respective departments of medical work. Dr. Lusk's book on the Science and Art of Midwifery has long been recognised as one of the best, if not the very best, treatise on its subject in the language, and it has been translated into several European languages and into Arabic. Dr. Lewis Smith's book on the Diseases of Children, of which there have been eight editions, might be spoken of in the same terms. Each author spared no pains—clinical, pathological, or literary—to arrive at truth in his respective studies, and each became a luminous and recognised authority. Dr. Smith, when asked in 1869 by Lea Brothers of Philadelphia to write a complete treatise on the diseases of children, at first modestly declined, alleging his unfitness for such a task. Fortunately he afterwards complied, and those who have read his work will long remember the faithfulness of his descriptions and the judgment in his treatment. We do not know any better account of the diarrhœa of children and of the enteritic inflammations to which they so often succumb than is to be found in this book, while the accounts of lesions in fatal cases add much to the scientific value of the records. Dr. Lusk was one of the earliest physicians to appreciate the significance of Lister's antiseptic system and to apply it to the art of midwifery with results that are among the triumphs of medicine in the Victorian era. His text-book is, as we have pointed out year by year in the Student's Number of THE LANCET, one of the best works on the subject in the language. In all parts of his great work, "The Science and Art of Midwifery," there is the same thoroughness of information and display of painstaking investigation, while full accounts of the latest work of other authors give to the work an authoritative character of completeness. Both these physicians have disappeared suddenly from the active spheres of labour and practice. Dr. Smith had been in indifferent health and had sustained two recent accidents which deranged his digestion and enfeebled his heart. He died suddenly from cardiac syncope at the age of seventy. Dr. Lusk also died suddenly, but in his case in the midst of apparent health, cerebral hæmorrhage carrying him off at the early age of fifty-nine years. He laid the foundations of his great medical and obstetrical knowledge in the teachings of Flint and Hamilton in his own country, and supplemented his knowledge by much work in Germany and other European countries. Both Dr. Smith and Dr. Lusk were widowers, but leave children to lament their loss. For further accounts of these interesting careers we refer our readers to our contemporary, the *New York Medical Record*.

THE PATHOLOGY OF CONGENITAL CYANOSIS.

DR. G VARIOT has recently contributed a series of articles to the *Journal de Clinique et de Thérapeutique Infantiles* (May 20th, May 27th, and June 3rd, 1897), in which he disputes the existence of any necessary connexion between cyanosis and congenital malformation of the heart and its great vessels. He quotes two cases which have come under his observation, and which presented almost identical anatomical defects, including marked contraction of the pulmonary artery and deficiency of the interventricular septum. In one of these cyanosis was very evident, in the other it was entirely absent. Dr. Variot is therefore disposed to look to other causes than cardiac malformation for the explanation of this symptom. The theory that it is due merely to admixture of arterial and venous blood, he reminds us, has practically been disproved by the experience of numerous observers. The teaching of the two cases reported by him has naturally strengthened a disbelief in contraction of the pulmonary artery as a sufficient cause, and, as he states, his observation in these instances is not unsupported by that of others. He cannot agree with Dr. Grancher, who attributes congenital cyanosis to causes similar to those which produce this symptom in the adult whose heart is not malformed, and which amount to a species of asystolia with associated disturbance of the whole circulatory system. His own view is that it results from the combined action of morbid change in the red blood corpuscles themselves and of vaso-motor paresis. The crowding together of red blood corpuscles characteristic of cyanotic blood, and already noticed by Gibson, Pierre Marie, and others, was well marked in the two cases above mentioned. It was, no doubt, as the writer observes, most evident in parts liable to vaso-motor action and paresis—the lips, conjunctivæ, &c. He acknowledges, however, the difficulty of deciding whether this crowding is not really attributable to reduction of the hæmoglobin in confirmed and congenital cyanosis as well as in the temporary variety

met with in some transient pulmonary disorders. Probably an admission that in mal-aeration of the red corpuscles we have the true cause of cyanosis will best reconcile the writer's theory with the fact that a more or less incompetent heart, whether malformed or not, is usually associated with congenital cyanosis.

THE DANGER OF MIXED COACHES IN A RAILWAY TRAIN.

THE verdict, coupled with a recommendation, of the jury at the conclusion of the inquest on the bodies of the persons who were killed in the accident on the Cambrian railway, near Oswestry, was in the majority of cases published in a short paragraph in a somewhat obscure corner in the daily papers, and its importance may be lost sight of. It raises, however, a very serious question, and we are concerned to know what notice will be taken of it. The jury returned a verdict of "Accidental death," but as to the precise cause of the accident there was not sufficient evidence to show. They added, however, the recommendation that in future four-wheel coaches should not be attached to trains of a modern and much heavier build. Now, this mixing of old with new coaches is constantly going on, especially with cheap excursions trains, and in view of the frequently crowded state of excursion trains proceeding to seaside places and elsewhere it is just these which require more attention in regard to safety than others which run comparatively slow and local journeys. In the evidence given at the inquest referred to, it was shown that the carriages which left the metals were of the old type. We are sure that this fact has not escaped the attention of the Board of Trade officials, and we hope they will take some steps with a view of preventing the possibility of a similar disaster happening elsewhere.

DARK LIGHT.

THE occurrence of light radiations, be they light, electricity, or other phenomena, which are so rapid in their vibrations as to permeate more or less opaque substances as illustrated in the x rays, has led to a branch of investigation which already has yielded very remarkable results. It is now known that most substances give off an active radiation of some kind when placed in the dark. These radiations are not visible to the eye, but the more sensitive silver film perceives them, so to speak, and, more valuable still, gives a permanent record of them. In the light of recent facts it is really astonishing that the photographer has been able to produce an absolutely unblurred negative. The very cardboard box containing his negatives has been found to produce a distinct effect upon the sensitive film. A piece of polished zinc produces in a similar way a picture of itself, the unevenesses of its surface being portrayed in the truest possible way. This action in no way depends upon contact, since a dividing sheet of celluloid or gelatine may be interposed without interfering with the result, except as might be expected in regard to a little less definition. Paper again transmits these light but yet dark radiations, though glass is apparently an effectual barrier to their passage. This was illustrated in an amusing experiment by Dr. W. J. Russell, F.R.S., who has recently communicated a most interesting paper to the Royal Society on this curious property of a very great number of substances. One of his methods of experimenting was to place the substance—and there is no better emitter of these dark radiations than uranium and its salts—in a pill-box, which he then placed upon a negative in the dark. The fact of a dark circle appearing on the negative showed that the radiations apparently had passed through the cardboard. In this experiment it was noticed that uranium acted more powerfully when in a pill-box than in other ways, and it proved ultimately that the pill-box itself contributed in no small measure to the action on the plate. Strawboard appeared very active, and certain specimens of printer's ink varied in their intensity. This last observation has thrown an interesting light on the resources of some of our esteemed contemporaries. For example, the *Westminster Gazette* is very active (from the point of view of its printing ink, of course), as also are the *Standard* and *Daily Graphic*, but the *Times* is a little less so. The *Evening News* may not be pleased to learn that it is only slightly active, while the *Morning Post*, *Pall Mall Gazette*, *Echo*, and *Daily News* have not the property at all of acting in this way. These differences are due doubtless to variations in the composition of the printers' inks severally employed. The subject is one of peculiar interest, and we may look for results of a still more remarkable kind.

THE ANNUAL DINNER OF THE EPIDEMIOLOGICAL SOCIETY.

ALTHOUGH Friday, June 25th, was the day preceding the Naval Review at Spithead, and thus a somewhat unfortunate date for many, the annual dinner of the Epidemiological Society was better attended than on any previous occasion, and a large number of guests were present. The President (Surgeon-Colonel Lane Notter) was in the chair, and after the usual loyal toasts had been duly honoured, Sir Douglas Galton, K.C.B., proposed "The Army and Navy," a toast which, in the unavoidable absence of the Director-General of the Army Medical Department, was replied to in most happy terms by Brigade-Surgeon Scriven. The toast of "The Visitors" was proposed by Sir Richard Thorne Thorne, K.C.B., who was very cordially congratulated upon his well-deserved Jubilee honour, and was responded to by Dr. Farquharson, M.P., and by Dr. Collins, the Chairman of the London County Council. Sir Walter Foster, M.P., in proposing "The Epidemiological Society," referred to the early history of the society and to the very valuable contributions which it had made to the science of epidemiology during the Victorian era; and the President, in responding to the toast, accentuated the world-wide character of the society, and pointed out that it had its foreign secretaries in all parts of the empire. It would, he trusted, be always the aim of the society to encourage foreign and colonial contributors. The toast of "The Chairman" was proposed by Dr. Whitelegge and duly acknowledged by the President.

A NEW SPECIALTY: RHINO-GYNÆCOLOGY.

TRULY the mysteries of the body are infinite, or is it that the ingenuity of investigators is inexhaustible? Some such reflections cannot but have occurred to our readers last week when they perused the very latest discoveries of "science," as reported from the city that is wont to be regarded as one of the highest seats of medical learning, Vienna. Of course, we are not going to be so bold as to doubt the accuracy of the somewhat singular observations of Dr. Fliess and Dr. Kleinwächter, but we may be pardoned perhaps if we enter a protest against their being made the basis of practice. If we were to name two organs of the human body which have perhaps suffered more than any other from the meddlesome interference of the specialist we should select the nose and the uterus. Instances must occur to the minds of every medical man where these long-suffering regions have been subjected to mechanical violence on grounds that are, to say the least, very insecure. Now, if these Vienna investigators are to be credited, it would appear as if certain

disorders of uterine function can be successfully dealt with by a local treatment of the nose! We tremble to think of the perturbation which such a momentous discovery will arouse in the specialistic circle, for who is to decide where the rhinologist shall step in or what are to be the limits of the field of gynæcological operation? In all seriousness we do most earnestly deprecate the practical application of Dr. Fliess's ingenious speculations as being calculated to open the door to an infinite deal of quackery—no other term can be found to indicate such practice—disguised beneath the cloak of so-called science.

SIR JAMES REID, BART., K.C.B.

THE Queen has been pleased, in commemoration of Her Majesty's Diamond Jubilee, to confer the dignity of a Baronetcy upon Sir James Reid, M.D., K.C.B., Resident Physician and Physician in Ordinary to Her Majesty. It is a great pleasure to chronicle this further proof of Her Majesty's high regard for the servant whose personal relations with her are necessarily of the most intimate nature, and we heartily congratulate Sir James Reid upon his well-deserved honour.

THE NEW INFIRMARY AT NEWCASTLE-ON-TYNE.

MR. RILEY LORD deserves the very warmest congratulations. Everyone will remember how about a year ago, when he was the energetic Mayor of Newcastle, he wrote a letter to the public press pointing out the necessity for a new infirmary and urging the fulfilment of the scheme as a fitting memorial of the Diamond Jubilee. Subscriptions flowed in, and the total fund now amounts to the very handsome sum of £100,379 16*s.* 8*d.* This is a result of which Newcastle may well be proud, and the major part of the honours are certainly due to the ex-mayor. We may mention that to finally complete the scheme some £20,000 are still required to be expended on furnishing and sundry other incidental expenses. The number of beds is 400.

"A NON-REGISTERED MEDICAL MAN" AND A "DEATH BY MISADVENTURE."

"I AM a non-registered medical man and not a herbalist. I do not profess any medical or surgical qualification. I am an author and have published five books, one of which is on botany. In that book I tell how one can discover in a minute whether a plant is poisonous or not by examining the bloom. I have travelled in Asia and America. I have practised twenty-four years, fourteen in the house in which I live." Such are the terms in which Mr. Frederick Rawlings, of Willow-grove, Reddish, near Stockport, favours a jury with a little of his interesting autobiography, while giving evidence in a case of injury to the knee which, in the opinion of Mr. G. Passmore, L.R.C.P. Irel., and L.S.A., was one of old injury to the bursa of the patella, and which had been treated by Mr. Rawlings with applications which had set up irritation, followed by absorption of septic material from the inflamed part. The swelling regarded by Mr. Passmore as similar to housemaid's knee was considered by the non-registered medical practitioner as "a tumour" to be broken up and dispersed with irritants, remedies he had used "in over 1000 cases, cases enough to fill the infirmary." We shall not go into the diagnosis of Mr. Rawlings. It is enough to point out that in the judgment of a qualified practitioner Mr. Rawlings's treatment was "bad, wrongful, and ignorant," and that by the coroner and his jury he was let off with a verdict of "Death by misadventure," with this amplification: "The cause of death was septic poisoning from housemaid's knee, and death was caused by misadventure." The coroner carefully instructed the jury that they were not to judge of the case and condemn Mr. Rawlings because he was not a qualified man. We see no reason why the jury should not have done both. It is the privilege of juries and their duty to express free judgments on such lamentable cases where life has been lost for want of proper knowledge and qualification in the attendant. Unless our memory misleads us juries are constantly expressing such judgments to the great advantage and protection of the public. Mr. Rawlings will possibly feel reassured in assuming the airs of a "medical man" and perhaps repeat the treatment which the jury were informed was "bad, wrongful, and ignorant" for twenty years more. What will Mr. Muir McKenzie say with regard to the need for amendment of the Medical Acts in the face of such cases as this?

THE JUBILEE AND THE PUBLIC SAFETY.

DESPITE the appalling prognostications of evil which were so freely made as to the loss of life which would inevitably accrue upon the occasion of the Jubilee, we are happy to say that nothing of the sort occurred. The streets did not fall in under the weight of sightseers; thanks to the admirable inspection of the London County Council no stands collapsed; and, partly owing to the exertions of the police and partly to the common sense of the people themselves, no one was crushed to death in the crowds. The Volunteer Medical Staff Corps, which had some 500 officers and men on duty along the route, report that no serious case occurred under their care. In all 201 cases were attended to, but these were chiefly cases of fainting. In some instances we fancy sightseers followed the example of Mr. Noah Claypole and his amiable wife and pretended to faint, not with the idea of getting brandy during prohibited hours, but so as to get a good place. This was especially the case at the top of Grosvenor-gate, where the St. John Ambulance Society had a station on the refuge in the middle of the road, a place which naturally commanded a good view. The resources of the staff were overtaxed, when some genius suggested removing the station out of sight of the route. After that the epidemic of fainting suddenly ceased. As to the hospitals they had far fewer casualties to treat than on an ordinary day, but all the same, when we think of the possibilities of accident which existed, it is a matter both for congratulation and profound thankfulness that everything passed off so well. Thirty-eight calls to fires were reported to the brigade, in most instances on the line of route of the procession, but none was serious.

MR. W. J. C. MILLER, the lately retired Registrar of the General Medical Council, is, we understand, to be the recipient of a testimonial from some of his friends, contributors to the mathematical columns of the *Educational Times*. His labours on that paper have been carried on for nearly forty years, but the absolute necessity for rest compels him now to resign his interesting and useful work.

THE annual dinner of the Hospital Reform Association will be held at the Holborn Restaurant on Monday, July 26th, at 7.30 P.M., Dr. Ward Cousins presiding. Dr. Ernest Snape, 41, Welbeck-street, London, is acting as honorary secretary, and will be glad to answer all communications. The price of the tickets is fixed at 5*s.* 6*d.*

AT the sixty-third annual general meeting of the Royal Statistical Society, held on June 29th, it was announced that the subject of the essays for the Howard medal, which would be awarded in 1898, with £20 as heretofore, was The Treatment of Habitual Offenders, with special reference to their Increase or Decrease in Various Countries.

HER ROYAL HIGHNESS PRINCESS CHRISTIAN of Schleswig-Holstein will lay the foundation-stone of the new cancer

wing of the Middlesex Hospital on Thursday afternoon, July 15th, at 5 P.M.

THERE is no foundation for the statement that Mr. Mayo Robson contemplates resigning his hospital appointment at Leeds and removing to London.

Pharmacology and Therapeutics.

THE ELECTRIC LIGHT IN RHEUMATISM.

DR. KOZLOVSKI, a St. Petersburg physician, publishes in the *Vrach* (No. 14, 1897) an account of his method of treatment of rheumatism and neuralgia by means of exposure to the electric arc. He was induced to make these observations by the statement of Dr. Ewald, who is medical officer to some large ironworks, that he had noticed that since the introduction of the system of electric welding there had been a notable diminution in the number of cases of rheumatism, neuralgia, migraine, and other nervous diseases among the workmen, which he attributed to the beneficial effect of the electric light. In order to bring this therapeutic agent within the reach of ordinary patients Dr. Kozlovski has fitted up consulting-rooms with a suitable plant for producing the electric arc, which consists of a six-horse-power oil engine, a dynamo, thirty-five Tudor accumulators, a rheostat, ampère-meter, and electric arc lamp with reflector. With these he obtains an electromotive force of 50 or 60 volts and a current of from 250 to 300 ampères. The patient is placed at a distance of one and a half metres from the light and protected by blue spectacles and also by a screen of cardboard in which an aperture is cut to allow the light to fall on the affected region of the body. To this it is exposed for from three-quarters of a minute to two minutes. At the time the patient feels a slight sensation of heat, though the temperature is never raised more than 4° F. where the light falls on the skin, but nothing more until six or eight hours afterwards, when itching and tingling are felt and the skin becomes reddened. Some forty-eight hours later desquamation occurs, which lasts for two or three days. In the course of three months Dr. Kozlovski has treated thirty-eight patients, varying in age from thirteen to seventy years, by the electric light. There were eight cases of sciatica, all of which recovered; four of neuritis (locality not stated), two of which recovered; eighteen of chronic rheumatism, fourteen of which recovered; three of lumbago, all of which recovered; three of occipital neuralgia, of which two recovered; and two of trigeminal neuralgia, one of which was greatly benefited. In most cases three or four sittings produced an amelioration of the pain. They were continued at intervals of three or four days, according to the amount of cutaneous irritation, but the total number of sittings never exceeded a dozen.

PICRIC ACID IN ECZEMA.

Picric acid, which, as is now known, is a very useful application in burns, has also been employed with success in eczema by M. Grangé and by Dr. W. Maclennan. In a recent communication to the Paris *Société Médicale des Hôpitaux*, Dr. Gaucher reports very favourably of it. He employs a 1 per cent. solution to paint the affected spots, which he then covers with a compress soaked in the same solution, leaving this on for two days at a time. He finds that the irritation is relieved and that the surface becomes more healthy. This method is applicable only to moist varieties, not to acute or to chronic lichenoid eczemas. He thinks also it would be very suitable in many other moist affections of the skin, such as pemphigus. It should be observed that Dr. Maclennan dealt with acute cases, and employed a saturated solution.

AIROL IN LEPROSY.

An Italian physician, Dr. Fornara, of Taggia, reports a remarkable improvement in a case of typical leprosy of five years' standing, consequent on the use of airol dusted on the ulcers and open abscesses, together with a 10 per cent. vaseline ointment applied to the conjunctivæ and injected into localities where softening had commenced. Tonics were also prescribed and general massage was practised, and at the end of a couple of months the nodules disappeared or diminished considerably in size, the conjunctivæ regained their normal appearance, the hair reappeared, and the cutaneous sensation returned. The drug was well borne, but the gums became discoloured by the bismuth in the airol, and when very large doses were given a certain degree of prostration was observed.

EUCAINE B IN OPHTHALMIC PRACTICE.

According to Dr. Silex, of Professor Schweigger's ophthalmic clinic, Berlin, the so-called eucaine B, which is, of course, closely allied to the older eucaine or eucaine A, has some advantages over the latter as well as over cocaine and tropacocaine—to which it is also closely allied—in ophthalmic practice. First of all, it is very much less toxic than any of these substances. Its hydrochlorate stands boiling much better than that of cocaine, thus rendering sterilisation more simple. The hydrochlorate is soluble in water to the extent of 5 per cent. at ordinary temperatures, and it does not irritate the eye as eucaine A often does. Two drops of a 1 per cent. solution induce in from one to three minutes anæsthesia of the cornea which lasts for a quarter of an hour. In about half the cases examined hyperæmia was observed in the conjunctiva, which, however, did not distress the patients at all, and which was in marked contrast to the anæmia usually caused by cocaine. The pupil was unaffected in diameter, the sphincter reacting promptly; the power of accommodation, too, remained intact. No diminution of tension in the eyeball as sometimes noticed with eucaine A could be detected. In the treatment of foreign bodies in the cornea, corneal ulcers, interstitial keratitis with great irritation, episcleritis and iritis, cocaine appears as suitable as eucaine B; indeed, more so in affections such as iritis in which there is hyperæmia of the anterior half of the eye. In cataract operations eucaine B is perhaps better than cocaine, as it is often of advantage to have a normal pupil during the operation. Six drops of the solution are instilled about ten minutes before the operator is ready. It may be remarked also that eucaine B is cheaper than cocaine, so that in hospital practice it is not unlikely to be preferred in suitable cases.

INJECTIONS OF IODINE IN TUBERCULOSIS.

Campanini gives an account of several cases of Durante's method of treatment in cases of surgical tuberculosis. Two cases of joint disease in which cures were obtained are especially mentioned. In one of these fifty-three and in the other forty-five injections were given, some of which were intra-muscular and some intra-articular. Good results were also obtained in cases of tuberculous glands, especially those which were not associated with any suppurative periadenitis. Lupus, tuberculous orchitis, and epididymitis have all been treated with this method, and two cases of tuberculous peritonitis are also said to have improved under it.

EUCHININ AS A SUBSTITUTE FOR QUININE.

This substance, which is said to have the therapeutical qualities of quinine, occurs in fine white needles which melt at 95° C. and are easily dissolved by alcohol, chloroform, and ether, but dissolve with difficulty in water. It forms salts, of which the muriate is easily soluble in water, while the sulphate and tannate are much less so. The advantages which this drug is said to have over quinine consist in the facts that it is almost tasteless and that it does not produce any headache, noises in the ears, &c., which quinine is apt to do. Clinically it has been used in the same classes of cases in which quinine would be applicable, and it is stated that healthy persons can usually tolerate from fifteen to thirty grains without any ill effects. Chemically the drug is closely allied to quinine, and it is prepared by the action of chlor-ethyl carbonate upon quinine.

LYCETOL AS A SOLVENT OF URIC ACID.

Since the discovery of the all-important part which the presence of uric acid plays in health and disease there has been a constant endeavour to find a drug which will promote excretion of this substance when its presence in the body is causing unpleasant symptoms. One of the last of these solvents is named "lycetol." Lycetol is the tartrate of dimethyl-piperazine, and as such it will be seen that it is closely allied to piperazine, which is also claimed to have a definite solvent action on uric acid. It is a white powder, easily soluble in water, and possessing a pleasant acid taste. The administration of this drug is said to be immediately followed by an increase of the amount of uric acid in the urine, while the actual quantity of the urine is increased and the specific gravity lowered. Dr. R. de Jollenaere reviews the action of this drug in *La Belgique Médicale*, and he considers that without being considered a specific, lycetol none the less must be regarded as a valuable help

in the treatment of chronic gout and rheumatism; for under its influence there is often a rapid diminution of pain, accompanied by an increased flow of urine.

AMYLOFORM AND DEXTROFORM.

A new substitute for iodoform has recently been prepared by Professor Classen, of Aix-la-Chapelle, which he names "amyloform," and which consists of a combination of formaldehyde with starch. It occurs as an almost impalpable white powder, devoid of all smell and insoluble in ordinary menstrua. In contact with the tissues of the living body, however, it breaks up, and when it was applied to extensive suppurating wounds formaldehyde could be detected in the purulent discharge. At the same time the urine was proved to be quite free from it by distillation with dilute sulphuric acid and the addition of fuchsin sulphurous acid, so that whatever formaldehyde enters the system must be fully oxidised therein. However much amyloform is applied no toxic symptoms are produced, though a slight and transient smarting sensation is sometimes complained of locally. The clinical effect of the substance is very similar to that of iodoform, only it is frequently more pronounced. In a number of cases of deep wounds with suppuration of bone from osteomyelitis or tubercle a quantity of the powder very liberally applied caused the suppuration to cease in a very short time—in some instances where iodoform had previously been tried without much result. In varicose ulcers of the leg and in the primary sore of syphilis, amyloform also proved useful. The above clinical observations were made by Dr. Bongartz in the Mariahilf Hospital, Aix-la-Chapelle. It has been mentioned that amyloform is insoluble, but a very similar substance has been prepared from dextrin instead of starch, which Professor Classen calls "dextroform," and this is dissolved without much difficulty by both water and glycerine. Its five, ten, or even twenty per cent. solution has proved very useful, as in injection in gonorrhœa, and the two former of these solutions have been employed with success for washing out the cavity of an empyema. Internally the solution has been prescribed with advantage in a case of cystitis.

The Lancet Special Commission
ON
SICILY
AS A HEALTH RESORT.

III.[1]

Comparative Meteorology and Climatology of Sicily—Contrast between Sicily and (1) Bournemouth, Ventnor, and Torquay; (2) Nice, Mentone, and San Remo; (3) Cairo; and (4) Orotava, Canary Islands.—The Sicilian Flora and its Relation to Climate.—Experiments in Acclimatisation at Palermo.

To complete the survey of the meteorology and climatology of Sicily it will be instructive to institute a comparison between that island and some of the most favourite health resorts of the world. For the purposes of this comparison three of the best-known British resorts will be selected—viz., Bournemouth, Ventnor, and Torquay; three of the best-known Rivieran resorts—viz., Nice, Mentone, and San Remo; Cairo, as representative of the North African sanatoria; and Puerto de Orotava, Teneriffe, as representative of the Canary Islands. It would be easy to enlarge this list, but the exigencies of space place a limit to the range of the survey. As differences, usually slight, but sometimes material, exist in the figures of the meteorological tables furnished by different authorities, it may be well to indicate the writers who have been chiefly relied upon to furnish the data for the following comparisons. For the British resorts "The Climates and Baths of Great Britain," being the report of a committee of the Royal Medical and Chirurgical Society of London, 1895, has been exclusively relied on. For the Riviera the well-known works of Sparks, Marcet, Bennett, and Hassall have been consulted. Sandwith has supplied the figures for Cairo and Samler Brown those for Orotava. The authorities for Sicily have already been fully indicated. Before entering upon the following comparative survey it should be remembered that comparisons between different health-resorts are difficult, and unless made with great caution may be entirely misleading. Climate is a very complex affair, and two sanatoria cannot be fairly compared with regard to one climatological factor without having regard to the others. Thus, if two localities are compared with regard simply to considerations of temperature, the comparison will possess a certain value, but that value will be very limited because the comparison will ignore such vitally important points to the invalid as amount of sunshine, proportion of fine days, amount of rainfall, and character of the prevailing winds. Again, a certain locality may be pre-eminent from one point of view, but quite deficient from another. The island of Monach, in the Hebrides, has one of the most equable climates in the world; but the amount of rain and cloud and the deficiency in sunshine render it useless as a health resort. At Luxor, in Upper Egypt, there is practically no rain, and the sky during winter is usually cloudless; but as a set-off to these great advantages the daily range of temperature is very high and dust-storms from the desert are a serious annoyance. Syracuse has a bright, sunny, equable climate, but the frequency of high winds mars its utility as a health-resort. In fact, as Fonssagrives remarks,[2] "Les climats, comme les caractères, ont les qualités de leurs défauts, et les défauts de leurs qualités." In other words, the value of a health resort must be gauged, not only by its merits, but by its defects and by a judicious appraisement of its *tout ensemble* of meteorological characteristics.

1. *Sicily as compared with the chief British resorts.*—The mean temperature for the whole year at Bournemouth is 49·7° F. (= 9·83° C.); at Catania 64·4° F. (= 18° C.); the mean at Ventnor 50·8° F. (= 10·44° C.); at Palermo 64·6° F. (= 18·1° C.); and at Torquay 49·4° F. (= 9·66° C.). The temperatures for the winter months at the three British resorts and at Catania and Palermo appear in the following table:—

—	Bournemouth.		Ventnor.		Torquay.		Palermo.		Catania.	
	Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.
Nov. ...	45·2	= 7·3	47·8	= 8·7	46·6	= 8·1	60·58	= 15·88	61·05	= 16·14
Dec. ...	39·7	= 4·2	42·3	= 5·7	42·7	= 5·9	54·55	= 12·53	53·76	= 12·09
Jan. ...	39·6	= 4·2	41·6	= 5·3	40·8	= 4·9	51·60	= 10·89	49·51	= 9·73
Feb. ...	39·7	= 4·2	41·9	= 5·5	41·9	= 5·5	52·90	= 11·61	51·67	= 10·93
March ...	41·7	= 5·4	43·1	= 6·2	42·3	= 5·7	56·01	= 13·34	54·52	= 12·51

Dr. Sparks, in his work on "The Riviera," says (p. 2): "On the whole, it may be stated without much want of accuracy that the mean temperature of the Riviera in the winter and spring is from eight to ten degrees higher than that of England." It would appear from the above table that the mean temperature of the Sicilian resorts in the winter and spring is from eleven to fifteen degrees higher than that of England, and consequently from three to five degrees higher than that of the Riviera. The contrast between the British and the Sicilian resorts with regard to the relative humidity of the air is, as might have been expected, great. The figures are as follows:—

Torquay	82·3 per cent.	Saturation = 100 per cent.
Ventnor	81·0 ,,	
Bournemouth ...	77·7 ,,	
Palermo	65·4 ,,	
Catania	61·0 ,,	

Not less striking is the contrast between the British and the Sicilian resorts as regards the proportion of rainy days in the year. The following are the figures: Torquay, 187 rainy days per annum; Ventnor, 164; Bournemouth, 158·3; Palermo, 116; and Catania, 86.

The returns from the British resorts do not state the number of days of frost, fog, or high winds, so that any comparison under these heads is impossible. It may, however, be borne in mind with advantage that at Palermo the thermometer touches freezing point about two or three times

[1] Nos. I. and II. were published in THE LANCET of June 5th and 12th, 1897, respectively.

[2] Article, Climat in the Dictionnaire Encyclopédique des Sciences Médicales, Paris, 1878.

in the year, at Catania rather less frequently, and that at both resorts fog is practically unknown. In these respects the superiority of the Sicilian resorts is, as might be expected, very decided. The mean daily range of temperature is not given in all the English returns, but it is stated to be only 10·6° at Ventnor, which is rather under the Sicilian average. To sum up, while the British resorts present considerable advantages to patients who are unwilling to face a long journey and expatriation, they are inferior to the Sicilian resorts as regards the general warmth and brightness of the invalid season, the number of rainy days, the amount of cold, frost, and fog; in fact, in most of the essential meteorological features for which the invalid usually seeks climatic change.

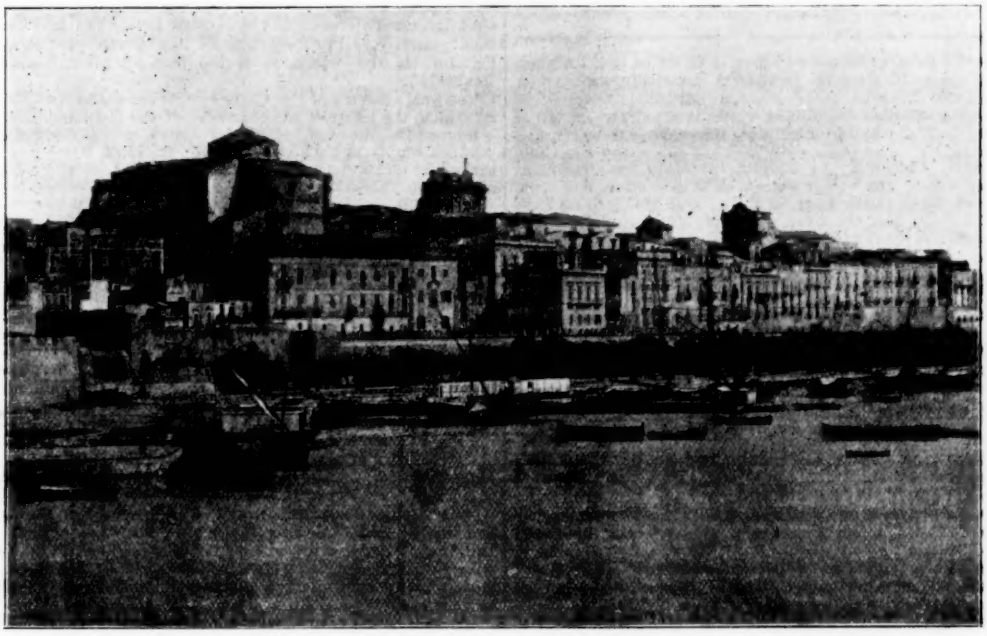
2. *Sicily as compared with the chief Rivieran resorts*.—The following is the comparison as regards the mean temperature for the winter and spring months:—

—	Nice.		Mentone.		San Remo.		Palermo.		Catania.	
	Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.	Deg. F.	Deg. C.
Nov. ...	53·8 =	12·1	54·1 =	12·3	53·54 =	11·9	60·58 =	15·8	61·05 =	16·1
Dec. ...	48·5 =	9·1	49·7 =	9·8	49·25 =	9·5	54·55 =	12·5	53·76 =	12·1
Jan. ...	47·0 =	8·3	49·0 =	9·4	47·23 =	8·4	51·60 =	10·9	49·51 =	9·7
Feb. ...	48·4 =	9·1	48·6 =	9·2	50·19 =	10·1	52·90 =	11·6	52·67 =	10·9
March ...	51·8 =	11·0	50·7 =	10·4	52·0 =	11·1	56·01 =	13·3	54·52 =	12·5

The higher rate of warmth at the Sicilian resorts during the winter and spring months is thus evident. The number of times that the thermometer touches freezing point in the course of the winter is one convenient gauge of the mildness or severity of the climate. The data for an exact comparison under this head are not available, but the existing evidence would appear to indicate that freezing point is touched much more frequently at Nice, Mentone, and San Remo than at Palermo or Catania. It must also be borne in mind that any considerable degree of cold is unknown in Sicily at the sea level, but well known, although exceptional, at the Rivieran resorts. As regards the relative humidity of the air the figure for Nice—viz., 59·6 (mean of observations taken at 2 P.M.)—may be compared with that of Palermo—viz., 65·4, and for Catania 61 per cent. No one familiar with the Riviera and with Sicily can doubt for a moment that the air of the former is drier than that of the latter, but it would appear from these figures that the difference is considerably less than might have been supposed. If, in accordance with the views of most writers on the subject, the climate of the Riviera be regarded as dry, then the climate of Sicily cannot be called damp, the difference in relative humidity being really small. The Rivieran resorts show very favourably with regard to that which is their chief glory, viz., their remarkably high proportion of fine days and low proportion of wet and cloudy days. The number of rainy days per annum at Nice is 70; at Mentone 80; at San Remo 48; at Palermo 116; and at Catania 86. Here, therefore, is an important point, in which the Rivieran climate has a superiority over the Sicilian, though it will be noticed that Catania is but little below the average of Mentone. Indeed, Professor Ughetti[3] claims an actual superiority for Catania as regards serenity of sky and proportion of fine weather. He quotes the following statements from Schivardi: "From Nov. 1st to March 30th Mentone has on an average 50 days of rain, Catania only 26. From Oct. 1st to April 30th San Remo has 83 days of cloudless sunshine, as compared with 103 at Catania, 95 'mixed' days (days of partial cloud and partial sunshine), as compared with 76 at Catania, and 34 rainy days as compared with 33 at Catania." Readers have probably already appreciated the extreme difficulty of obtaining absolutely precise data with regard to meteorological details. These figures must be allowed to speak for themselves. It appears probable that while Sicily as a whole is inferior to the Riviera in the proportion of fine weather, Catania and its neighbourhood are practically on a par with Mentone and San Remo. It will be found that in the matter of winds sunny Sicily has a decided advantage over the sunny Riviera. It is admitted by every competent authority that cold winds are the grand drawback to the otherwise admirable climate of the Riviera. The old saw remains true as regards the mistral—

> "La Cour de Parlement, le Mistral et la Durance
> Sont les trois fléaux de la Provence."

Much heated argumentation has taken place regarding the



Syracuse from the Sea-front.

[3] Vide L'Inverno a Catania, by Dottor G. B. Ughetti.

frequency of the mistral, its varying rates of virulence at the different Rivieran resorts, &c. Without touching upon ground that is in any way disputable, it may fairly be assumed that the mistral is somewhat frequent on the Riviera, that it is both disagreeable and dangerous, and that it constitutes a serious objection to the climate. Now, broadly speaking, cold winds are unknown in Sicily, the tramontana and greco being very rarely disagreeable to the healthy individual or hurtful to the invalid. The chief drawback, however, to the Sicilian, as to the Rivieran, climate is a wind, but in the case of Sicily it is a hot, not a cold wind—viz., the sirocco, and, moreover, a wind which, though highly disagreeable, is not injurious to health, and which is, as a rule, better borne by the ailing than the healthy. Summing up, it may be said that the climate of Sicily is warmer, more equable, and more free from extremes than that of the Riviera; that in dryness of the atmosphere and average of fine sunny weather the Riviera has a slight, but only a slight, advantage; and that the hot winds of Sicily are less frequent during the invalid season and less perilous to health than the cold winds of the Riviera.

3. *Sicily as compared with Cairo.*—The contrast of mean monthly temperatures is as follows:—

—	Cairo.	Palermo.	Catania.
	Deg. F. Deg. C.	Deg. F. Deg. C.	Deg. F. Deg. C.
November	64·4 = 18·0	60·58 = 15·8	61·05 = 15·1
December	58 4 = 14 6	54·55 = 12·5	53·76 = 12·1
January	53 6 = 12·0	51·60 = 10·8	49·51 = 9·7
February	57·0 = 13·9	52·90 = 11·6	51·67 = 10·9
March	62·8 = 17·1	56·01 = 13·3	54·52 = 12·5

It will thus be seen that Cairo is about as much warmer than the Sicilian resorts as they in their turn are warmer than the Rivieran resorts. The minimum temperature recorded at Cairo during the winter is usually about 35° or 36° F. (= 2° C.), and freezing-point seems never to be reached (Sandwith). The mean daily range of temperature at Cairo is great. According to Marcet, the mean temperature at Cairo during the winter season at 3 15 o'clock P M (the hottest time) varies from 79 2° F. (= 26 2° C.) to 83 7° F. (= 28 8° C.), and the mean temperature at 3 15 o'clock A M. (the coldest time) varies from 38 7° F. (= 3·7° C.) to 39 9° F. (= 4 4° C.). Here there is a striking contrast to the mean daily range of Sicily, which may be taken as about 12° F. or 13° F., recalling the cardinal defect of the Egyptian climate—viz., its lack of equability. The mean relative humidity of the air at Cairo is 58·4 per cent., which may be compared with the rate at Palermo (viz., 65·4 per cent.) and that at Catania—viz., 61 per cent. A greater contrast would have been expected under this head, but the remark of Sandwith may be recalled: "Although Cairo is exceptionally dry it has its damp moods at times, and several times a year for a few hours reaches saturation on the humidity scale." As regards average of fine weather, Cairo, as might be expected, far surpasses any of the European resorts. Cairo has an average annual rainfall of 1·22 in., and the average number of rainy days per annum is about 12 or 13. Cold winds are not, as a rule, frequent or dangerous in Egypt, but the khamseen wind, blowing from the south or south-south-east, is in many respects comparable to the sirocco of Sicily. It is evident that the climates of Cairo and of Sicily present points both of analogy and contrast. Both have a high proportion of sunshine and fine weather, but in this respect Cairo has much the advantage. Cairo has a dry climate—Sicily a climate of medium humidity. Cairo has a very high daily range of temperature—Sicily a moderate daily range. Both suffer from winds, but from hot, rather than from cold, winds. Both are somewhat dusty places, but this inconvenience and danger is much greater in Egypt than in Sicily.

4. *Sicily as compared with Orotava (Canary Islands).*—The contrast between Sicily and the Canary Islands is in many respects one of peculiar interest, and it is a matter of regret that fuller meteorological tables are not available for the Canary Islands. These islands are situated in 28° and 29° N. latitude, or about 8° or 9° nearer the Equator than Sicily, but the resemblance, meteorological and botanical, between them and Sicily is closer than their relative geographical position would suggest, the explanation, no doubt, being that both feel the influence of the neighbouring African continent.

The contrast of mean monthly temperatures is as follows:—

—	Orotava.	Palermo.	Catania.
	Deg. F. Deg. C.	Deg. F. Deg. C.	Deg. F. Deg. C.
November	64·7 = 18·1	60·58 = 15·8	61·05 = 16·1
December	61·2 = 16·2	54·55 = 12·5	53·76 = 12·1
January	59·6 = 15·3	51·60 = 10·8	49·51 = 9·7
February	60·4 = 15·7	52·90 = 11·6	51·67 = 10·9
March	62·0 = 16·6	56·01 = 13·3	54·52 = 12·5

Orotava is thus seen to be appreciably warmer in winter and spring even than Cairo. The mean daily range of temperature at Orotava during the season is stated to be 13°F., which is very near the Sicilian average. The relative humidity of the air at Orotava is high—viz., 75 per cent.—the climate being thus somewhat damp. The number of rainy days from November to March (inclusive) is about forty, and although there is a considerable amount of cloud the proportion of fine weather and sunshine is high. The analogy between the Canary Islands and Sicily is, on the whole, close, and when the subject of the Sicilian flora is dealt with it will be found that the meteorological resemblance of the two localities is illustrated by the affinity presented by their respective plant life. The chief points of difference appear to be that Orotava is somewhat warmer and damper than Sicily. Considerations of space prevent the analogy between Sicily and the Canary Islands being pursued, and the differences—not unimportant—between Oratava and Santa Cruz and Las Palmas cannot be entered into. The first has been selected as representative of the group of islands because, on the whole, it is the best known and most frequented.

The final outcome of the above comparisons is to illustrate once more the intermediate character of the Sicilian climate—intermediate in meteorological features, intermediate also between Europe and Africa. In Sicily the climate is (during the winter and spring) free from extremes of heat and cold, of medium humidity, decidedly equable on the whole, but showing a fair mean daily range of temperature, possessing a very high average of sunshine and fine weather, practically free from mist and fog, and without any serious drawback, except the sirocco, which is at its minimum during the invalid season. It would seem probable that a climate possessing so much of the "aurea mediocritas" should prove somewhat widely applicable to cases of debility and disease. Before entering upon this question, however, the survey of the subject will be completed by dealing with the exceptionally interesting topic of the Sicilian flora. The following facts are given on the authority of Professor Borzì, Director of the Orto Botanico of Palermo.

The flora of the Conca d'Oro of Palermo is one of the richest and most varied in the world, and attempts at acclimatisation of tropical and sub-tropical plants have been remarkably successful. Warmth and equability of temperature, a considerable rainfall, almost complete freedom from frost or severe cold, and a fair degree of shelter combine to make Palermo the paradise of the botanist. In few places can so many plants belonging to widely-separated regions of the world be found flourishing side by side, and apparently finding in soil and climate every condition necessary for their growth and maturity. Among the foreign species which flourish at Palermo may be mentioned those of the Canary Islands, Northern Africa, Asia Minor, Eastern Hindostan, Java, Australia, Cape of Good Hope, Madagascar, East Africa, Mexico, California, and Brazil. Nearly every variety of ficus comes to maturity here in the open air, also the agave, the arborescent forms of the liliaceæ, and, with a few exceptions, nearly all the cicadaceæ and the musaceæ. As instances of purely tropical plants which have been successfully cultivated in the Orto Botanico of Palermo may be mentioned the following: the Archontophœnix Alexandræ of Australia, the Ficus religiosa of Eastern Hindostan, the Quisqualis indica of Tropical Asia, the Grevillea Hilliana of Australia, the Banhinia acuminata of Malacca, and the Doryanthes excelsa of Australia. Botanists will appreciate the significance of this list, which might be indefinitely enlarged. Highly interesting and important also are Professor Borzì's observations regarding the period of flowering of plants in the

Orto Botanico. This, it need hardly be remarked, is perhaps the most delicate test of climate, and one absolutely free from every possible source of error that can be devised. Professor Borzì finds that in January (with a mean temperature of 51·6° F. = 10·8° C.) the following plants come into blossom—viz., the Abutilon Thompsoni, the Aloe arborescens, the Bougainvillea aurantiaca, the Euphorbia fulgens, the Strelitzia reginæ, the Aechmea Lindeni, the Albizzia lophantha, the Dombeya ferruginea, the Tecoma capensis, the Impatiens Sultani, the Nicotiana tabacum, and the Spermannia africana. In the month of February (with a mean temperature of 52·90° F., = 11·6° C.) the following plants come into flower—viz., the Abutilon hirtum, the Acacia longifolia, the Guarea coffeœfolia, the Rhaphiolepis indica, the Tropæolum tricolorum, the Cycas revoluta, and the Erythrina viarum. In March (with a mean temperature of 56·01° F.) the following plants come into flower—viz., the Cercis Siliquastrum, the Heliotropium peruvianum, the Livistona australis, the Mesembryanthemum acinaciforme, the Bignonia floribunda, the Chorizema cordatum, the Rondeletia Roezlii, the Begonia ricinifolia, the Eucalyptus amygdalina, the Pelargonium Radula, the Physalis peruviana, the Pæonia moutan, and the Staphylea colchica. The above are selected as some of the most striking examples from a list which contains a much larger number of plants. They amply justify Professor Borzì's allusion to "il rigoglio della vegetazione qui"—i.e., in Palermo—"mentre altrove, in equali latitudini, la natura è morta o quasi" (the luxuriant growth of vegetation here at a time when in other localities in the same latitude nature is practically dead). Palermo is not less notable for the number and variety of the fruits which there attain maturity. The pineapple (Ananas sativus) ripens without artificial heat, merely demanding shelter. In the open air, without artificial heat or special protection, grow the banana, the monstera, the guava, the anona, the kaki, the eugenia, and the sugar cane. Many species of bamboo, nearly all the agave, and the sanzeviere come to full maturity, cotton grows freely, and the coffee plant, if protected from the winds, brings forth good and aromatic fruit. It need hardly be said that oranges, lemons, figs, and almonds are among the most ordinary fruits abundantly produced upon the Conca d'Oro. This remarkable adaptability of the climate and soil of Palermo to the plant life of the most diverse localities has induced Professor Borzì to make the suggestion that the Sicilian capital should be made the seat of an International Acclimatisation Garden, where botanists from different countries might study the flora of many different regions simultaneously and enjoy the full advantages of the comparative method of observation. He is of opinion that "without excessive or extraordinary care the greater part of the representatives of the tropical flora could be freely cultivated in Sicily." There can be no doubt of the correctness of this opinion, and Professor Borzì's project will have the hearty approval of the scientific world.

The above botanical data bring into strong relief the mildness of the Sicilian climate and its almost semi-tropical character. Bennett, in his well-known work, "Winter and Spring on the Shores of the Mediterranean," makes the statement (p. 416) that "the more southern latitude of Palermo, without mountain protection from the north, gives it as warm a winter climate as the Riviera enjoys with protection from the north, but not a warmer one. The two regions seem to be singularly identical, considering the distance that separates them, as regards the character of their vegetation and its development." The above statements are decidedly erroneous. The winter climate of Sicily is on an average from 3° to 5° F. warmer than that of the Riviera, and the Sicilian flora is much more varied and more sub-tropical than the Rivieran. The wild flowers of Sicily are among the most varied and most beautiful in the world. Although many parts of the once fertile and luxuriant interior of the island are now bare and barren, there are other parts where the hillsides are ablaze with mesembryanthemums and marigolds, lupins, and cornflowers. On the slopes of the higher mountains a great variety of plant and tree may be observed. On Etna three zones are distinguished. First, a lower zone, extending from the sea level to an altitude of 1400 metres. Here grow abundantly olives, oranges, lemons, almonds, figs, pomegranates, vines, apples, pears, &c. This district is described, perhaps with a slight touch of Southern exaggeration, as "la regione più fertile e deliziosa d'Europa" (the most fertile and delicious region in Europe). The second zone ("Boschiva") extends from 1400 metres to 2200 metres of altitude. Here grow the oak, castagna, birch, beech, and various pines. The third zone ("Deserta" or "Scoperta") extends from the limit of the second zone to the summit. The flora is scanty and alpine in character.

The evidence—meteorological and botanical—upon which judgment regarding the general character of the Sicilian climate must be based has now been sufficiently indicated. It remains to inquire what is the general effect of the climate upon the human organism in health and disease—i.e., what is the medical climatology of Sicily. The terms which have to be employed in this connexion leave much to be desired in point of scientific precision, although in a popular way their meaning is clear enough. A climate is *tonic* if it tends to promote digestive vigour and vascular tone. If it has the contrary effect it is *relaxing*. A climate that tends to heighten the activity of the nervous system may be called *stimulating* or *exciting*, while a contrary tendency is called *sedative* or *depressing*. The term *bracing*, which is so often used, would seem to imply that the climate thus designated is both tonic and stimulating. These vague and quasi-popular expressions must be employed because there are literally no others available. The climate of Sicily may be most correctly described as (*a*) *moderately tonic*, and (*b*) *sedative*. It is moderately tonic by virtue of its high proportion of sunshine and fine weather and its general breeziness. It is sedative by virtue of its medium degree of humidity and its equability of temperature. It is often said that the Sicilian climate is relaxing, and it may be admitted that the statement may be true as regards certain localities, certain seasons, and certain individuals, but if put broadly the statement is erroneous. A climate with a relative humidity of only from 61 to 65 per cent., with a very high average of sunshine and cloudless skies, and with a pretty constant though moderate atmospheric movement, could not be relaxing in its main effect. That the climate may be correctly designated as moderately tonic is further demonstrated by the fact that it is found to suit very well in diseases that call especially for tonic influences—viz., tuberculous and glandular affections generally. The sedative influence of the climate upon the nervous system is admitted by all observers, and is, indeed, quite manifest. Nervous irritability is reduced by the soft, soothing, and equable Sicilian air. Sleep improves and excitement subsides. Hence, speaking generally, conditions associated with irritability, such as some forms of neurasthenia, some varieties of asthma, spasmodic laryngeal affections, &c., do well in Sicily.

Though the differences from the point of view of medical climatology between the various Sicilian localities cannot be called great they are quite appreciable. The climate of Palermo is less tonic and more sedative than the climate of Catania and *vice versâ*. Taormina represents one of the most tonic climates in Sicily—i.e., among localities at present available to tourists or invalids—the Conca d'Oro, one of the most sedative, while Girgenti is probably intermediate. When the diseases for which the climate of Sicily is specially suitable are considered in detail it will be found that the problem may be usually stated in this form—What are the morbid conditions likely to be benefited in a climate which, on the whole, promotes digestion and sanguification, and which is moderately soothing to the nervous system? The discussion of this question will be reserved for a future article.

WITH THE PUNITIVE EXPEDITION TO BENIN CITY.

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THE capture of Benin City and the events which led to it are too well known to need recapitulation, but perhaps a brief account of what occurred there subsequently to the occupation may be of some interest. The city was occupied on the evening of Feb. 18th by the expeditionary force, all of whom, especially the Europeans, were well-nigh worn out by the time the camp was reached. This is not to be wondered at when it is considered that on the final day we had to fight our way through dense bush for nine consecutive hours without any water to drink. I need

hardly say that very little interest was taken in anything for the remainder of that day, except for the safety of the camp and the care of the sick and wounded, everyone seeming to rest on his oars now that the goal had been reached. As this was the first good night's rest we had had since leaving Ologbo (five days before) it is needless to say that it was appreciated by all. Early next morning (Feb. 19th) a burial party, composed of bluejackets and marines, were told off to bury their dead messmates who had fallen on the previous day. Having disposed of these our next care was to ensure by sanitation of the city the health of the living. This proved a more formidable and offensive undertaking than I had at first imagined, as the city positively reeked with blood and the atmosphere was impregnated with the stench of decomposing human sacrifices, &c. However, there was no alternative but to dispose of the bodies in the quickest manner possible, as the polluted atmosphere had already affected the Europeans and the native troops and carriers; six of the latter died from an acute type of dysenteric diarrhœa, the Europeans suffering from a similar disorder—so between cremation and burials I disposed of upwards of six hundred human corpses. On Sunday, Feb. 21st, a fire broke out in the south-west corner of the city consuming the greater portion of it; owing to the rapidity with which it spread many of us lost nearly all our personal effects. However, it had a most salutary effect in cleansing the polluted atmosphere, a marked improvement being at once observed in the general health.

To convey some idea of the number of crucifixions and sacrifices witnessed in this "city of blood" it will be necessary to enter into a few gruesome details. Facing the principal entrance to the King's compounds stood a large sacrificial tree on which two bodies were crucified, and scattered in all directions around its base lay numbers of decapitated and disembowelled sacrifices in various stages of decomposition, amongst which were the decapitated remains of three Europeans, who had evidently been gagged and their hands bound behind their back before execution. A few hundred yards to the south of the main entrance, already alluded to, stood another sacrificial tree, on which was crucified the body of a woman, and at its base three other eviscerated bodies (also women) were found. Continuing my way to the south I came upon the large plain leading to the Gwato Path, and there witnessed one of the most horrible sights that it is possible for the human mind to conceive—i.e., one hundred and seventy-six newly decapitated and mutilated human sacrifices strewn about in all directions, besides countless numbers of skeletons—truly, a most gruesome sight and one not to be easily forgotten.

I will not describe any more of these horrible details; suffice it to say that sacrifices were found in nearly every portion of the city, some of the bodies being most brutally and cruelly mutilated. Before closing this tale of blood I may, however, give a brief sketch of the huge pits (seventeen in number) found principally in the vicinity of the regal palace. These pits were of enormous dimensions—12 feet in diameter and 40 feet deep. Seven of these contained human sacrifices (from fifteen to twenty in each pit); out of these "foulsome pits" (the stench emitted being intolerable) we rescued with great difficulty seven unfortunate captives, who for several days afterwards could hardly realise what had happened; two of them were carriers on Mr. Phillips's ill-fated expedition.

To change the subject to something more interesting and pleasant I shall endeavour to give a brief account of the Benin capital, its inhabitants and industries. Benin City is a large, straggling, walled-in town of about 20,000 inhabitants, and covers an area of about two square miles; it is situated on a plateau 176 feet above the sea level. The wall surrounding the city is in many places twenty feet high with a base four feet wide, which gradually tapers off to eighteen inches at the top. Judging from its solidity I can well imagine how perfectly secure the inhabitants felt from the raids or weapons of the surrounding tribes; coupling this with the strong belief in their fetiches, it is no wonder they considered themselves invincible. The first things that strike the observer on entering the city are the large walled-in compounds, 200 yards square, met with in all the principal quarters of the city; through four of these one has to pass before reaching the King's palace and Palaver house. At one end of each compound stands an altar decorated with large bronzes and enormous carved ivory tusks, the whole being smeared and crusted over with human blood; these altars (seventeen in number) I afterwards learnt from the chiefs who submitted to the Government were the shrines of the defunct kings of Benin. The antiquity of each could easily be traced by the appearance and condition of the carved ivories which decorated them; the most recent one was evidently only in existence about nine years, and it was at this shrine that Duboah the king was making sacrifices to the shades of his father when Mr. Phillips and his ill-fated party sought the interview with him.

The mode in which sacrifices were conducted at these shrines is simple in the extreme. The unfortunate victim is placed on the altar and knocked on the head with a sacrificial club (with which each altar is supplied), and then cast, whether dead or alive, into one of the large pits already mentioned.

The dwelling houses, especially those of the king's harem, were beautifully built and tastefully decorated throughout, some of the mud seats and couches being artistically inlaid with cowries, which had a most pleasing effect. The king's palace and palaver houses were most substantial buildings with metal roofs (yellow metal). Huge bronze snakes were represented wriggling on the roof of the latter with heads downward—in fact, on all their manufactured articles and carvings this reptile is freely displayed, it being their emblem of sovereignty, subtle and treacherous.

From what I saw of the Benin tribe I certainly consider them splendid specimens of the negro race—tall, of fine physique, and not wanting in intelligence, as their industries and arts go to prove. I was not able to learn much about their customs and habits during my stay in the city (five weeks), as they only commenced coming in in numbers on April 17th to tender their submission, one month after the capture of the city. Their chief industries, as far as I could learn, were moulding in bronze, carving on ivory, and blacksmiths' work generally, at all of which they are most skilful and proficient. Some of the bronzes are beautifully designed, moulded, and cast, and the carvings in ivory and wood are most wonderfully contrived and executed. In my wanderings about the city I came across many bronzes and plaques which were evidently designed, if not executed, by the ancient Egyptians; many others were of more modern times and bore traces of the Portuguese, from whom the art has without doubt descended. Amongst others I picked up a bronze figure of our crucified Saviour; this, with other emblems of Christianity found in the city, led me to believe that the custom of human crucifixions as practised by the natives was derived from the representations of the Crucifixion of our Saviour introduced, probably, by the Portuguese. The manufacture of bronzes was evidently carried on under the direct supervision of the kings, as the smelting pots and the clay and beeswax for moulding, &c., were all arranged in a compound adjacent to the palace. Several moulds in various stages of completion were found here; those ready for casting presented when broken the following appearance. A mould of special clay formed the base, over this a likeness of what was required was beautifully modelled in beeswax, and outside this a covering of "potter's clay," the whole being enwrapped in ordinary mud or mortar. I can only conjecture the final process to complete the operation—i.e., the mould, after being sufficiently sun-dried, is transferred to the smelting pot and completely submerged in the molten metal, which takes the place of the wax, and the object is accomplished. Under the able administration of Mr. R. Moor, H.M. Commissioner and Consul-General, there is a great future in store for this lately acquired territory.

Old Calabar.

"A WATER FAMINE IN SOUTH LONDON."

UNDER the above heading the following letter appeared in the *Times* of June 26th:—

"SIR,—Allow me, if you please, to call public attention to the sufferings which are now being endured by a large area of the suburban population—how large I am not able to say—by reason of the non-supply of water by the Lambeth Waterworks Company.

"On Monday not a drop of water came into this house. On Tuesday enough came in just to fill the cistern and no more. On Wednesday the same. To day not a single drop. Meanwhile the misery we are enduring is indescribable. Horses and dogs are suffering, our sanitary arrangements are in a terrible condition, our drains are unflushed, the luxury of a bath is denied to us, and we live in constant terror of a blow-up in the kitchen.

"I have bombarded the company with letters and telegrams worded as strongly as I could, but, till this morning, with no result beyond the stereotyped printed form acknowledging receipt of my communication, 'which shall receive attention.' Now at last cometh a

letter from the engineer of the company condescending to inform me—on this the fourth day of the water famine—that the failure of the supply has been due to a breakdown at the Ditton Works which the company 'could not advise consumers of, owing to the fact that we had no forewarning of the occurrence and to the large area affected.'

"Comment on the above is hardly necessary. That such a 'breakdown' should be possible is simply unpardonable. If, as must be the case, for there has been no drought or drying up at the fountain head, the pumping machinery has gone wrong, can there be any excuse whatever for the power not being in duplicate so that the risk of such a frightful stoppage of supply would be at least halved?'

"*En attendant*, with the thermometer standing at 80 deg. in the shade, we are waiting in vain for the welcome inrush into the cistern of the element for which we have paid, and without which we must soon perish. "I am, your obedient servant,

"137, High-street, Sydenham, S.E., June 24th." "A. C. ANDROS.

We have thought the matter of sufficient importance to re-publish this letter *in extenso*. It will be seen that the statements of the correspondent are perfectly definite. The points of interest are that on Monday, June 21st, "not a drop of water" went into the house No. 137, High Street, Sydenham; on Tuesday, June 22nd, only an amount of water "sufficient to fill the cistern" was received; on Wednesday, June 23rd, again only enough water arrived to fill the cistern; on Thursday, June 24th, at the time at which the letter was written no water had been supplied. The hour at which the letter was written is not, however, given. These statements are precise and definite, and they require explanation. The correspondent says that he has received a letter from the engineer of the Lambeth Waterworks Company, and he gives a quotation from it. The engineer said that they could not tell their customers that the water-supply would be deficient—firstly, because they had no "forewarning of the occurrence"; and secondly, because "the area affected was a large one." The statement of the engineer that the area affected was a large one is of considerable interest, and we should be glad to know how many people besides the correspondent who wrote to the *Times* suffered from a deficiency or absence of water-supply. On Monday, June 28th, a letter was published in the *Times* from Mr. H. Wilkins, secretary to the Lambeth Waterworks Company. The letter is as follows:—

"SIR,—With reference to the letter from Mr. A. C. Andros in your issue of to-day under the above heading, will you allow me to say that the normal supply of water was resumed throughout the company's district on Thursday, the date of Mr. Andros's letter, although it is quite possible that the full pressure was not felt at some of the higher levels until the following day? The pumping machinery is in duplicate. The difficulty was with some of our filter beds.

"The average daily supply for the year is about 23,000,000 gallons, and the average for the present week exceeds this quantity. On no day have less than 20,000,000 gallons been sent into the district. Whether the term 'water famine' is ntly applied to such a condition I leave your readers to judge. Probably no inconvenience whatever would have been felt but for the sudden accession of hot weather.

"I need scarcely say that the company extremely regret the occurrence, which, however, was due to causes entirely beyond their control. May I add a word of thanks to our consumers generally, who have been good enough to submit to temporary inconvenience without unreasonable complaint? "I am, Sir, your obedient servant,

"H. WILKINS, Secretary.

"Lambeth Waterworks, Brixton-hill, S.W., June 26th."

It will be noticed that the secretary of the Lambeth Waterworks Company does not deny any of the statements made in the letter of Mr. Andros. We may, therefore, assume that the statements made as to the deficiency or absence of the regular water-supply at No. 137, High-street, Sydenham, existed from Monday, June 21st, up to Thursday, June 24th. We may further assume that the quotation which Mr. Andros gives from the letter which the engineer of the company sent to him is also correct, and that the area affected by the water famine was a large one. The secretary of the company in his letter to the *Times* is not explicit as to the cause of the deficiency of the water-supply. What he does say on the matter is, firstly, that the difficulty was with some of the filter beds; and, secondly, that it was due to causes entirely beyond their control. We do not consider this explanation either ample or satisfactory, and we await further information with interest.

MEDICAL MAGISTRATES. — Mr. Edmund J. Thompson, M.R.C.S. Eng., of Measham, Atherstone, and Mr. William Holder, M.R.C.S. Eng., of Hull, have been placed on the Commission of the Peace for the county of Derby and the city of Hull respectively.—The following gentlemen have been appointed magistrates for their respective colonies—namely, Mr. J. L. M. McCreadie, M.B. Syd., of Gulong, New South Wales; Mr. A. Philip, L.K.Q.C.P., L.R.C.S. Irel., of Surry Hills, Sydney, New South Wales; and Mr. S. S. Richards, M.B., Ch.M. Syd., of Mount Morgan, Queensland.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Enteric fever in the town of Bicester, by Dr. THEODORE THOMSON.[1]—The report presented to the Local Government Board by Dr. Theodore Thomson on this occurrence of enteric fever contains many points of interest. In the first place, it is stated that when the inquiry was ordered no report on the outbreak had been received as to it from the medical officer of health, in accordance with the terms of the order of the Local Government Board. We refer to this because we so often read a similar statement; and this failure to report seems to be one of the most certain methods of bringing about a visit of a medical inspector. In this instance that visit can only have done good, and hence no one really interested in the health of the town can regret it. The story is a very excellent one from the etiological point of view. Bicester had a by no means good record as to enteric fever, and a few years ago there were 56 cases. Odd cases occurred in the early summer of 1895, then came a group of "suspicious" cases, which were obviously, in the main, genuine cases unrecognised; then followed a batch of 28 notifications in four weeks, and a very painstaking research ultimately identified nearly every attack with the use of water from a somewhat famed spring well; indeed, the disease picked out people who used this water even at a distance from the well, near which the great incidence of the disease fell. The well was closed. Then ensued another batch of 10 cases, still in the same portion of the town, and these were connected with the use of water from a second well; and, lastly, came another batch of 11 cases, obviously associated with the use of water from a third well close by the infected area. As already implied, the disease was practically restricted to one portion of the town; and it was quite clear that the houses infected had nothing in common but a polluted water-supply which had opportunities of receiving specific contamination. The first water-supply which became infected after the occurrence of isolated attacks of enteric fever was so contrived that it could not escape sewage contamination. It was situated in a sort of angle formed by two sewers, and the angle was so arranged as to allow the contents to exude and to infiltrate the surrounding soil in the most efficient manner that could be devised. Sunk in the pervious calcareous sandstones of the cornbrash, all was ready for precisely that which did happen. But this was not the only leaky point in the Bicester sewers, which were now getting specifically polluted; and other wells soon followed suit in spreading the disease. Into one of these a drain was found to be visibly percolating, and a third was close to a public-house urinal. In fact, these wells are sunk in pervious strata, which, by reason of negligent sanitary work and still more negligent sanitary administration, have been allowed to become infiltrated with filth; and when periodically the filth is derived from specifically diseased excreta—as doubtless in 1890, and certainly in 1895-96—there follows an outbreak of disease. It must not be assumed that the local authority were ignorant of this state of affairs, for in 1890 Mr. Dyson Wood, their medical officer of health, told them that "a safe water-supply for the district is essential." The effect of this decided advice is seen in the epidemic to which Dr. Thomson's report relates. It was practically ignored. And worse, in October, 1895, when the disease was in full force, the sewer near the implicated well was found "to be leaking freely into the surrounding soil at several points"; but in April, 1896, Dr. Thomson found that these conditions "remained unaltered." So, also, the progress of the enteric fever and of the death it occasioned remained practically unaltered, for other wells soon received the specific pollution; the disease went on in two further batches up to Jan. 4th, and again by the end of March 9 more cases had been recorded, making 49 cases of enteric fever notifications and 11 "suspicious" cases up to Jan. 4th, and then 9 more notifications, or 69 attacks, with 10 deaths, in one small portion of this little town. It still

[1] Eyre and Spottiswoode, East Harding-street, E.C.; John Menzies and Co., Edinburgh and Glasgow; Hodges, Figgis, and Co., Dublin, 1896. Price 6*d*.

remains to be learnt what permanent remedy the district council propose to make.

Diphtheria in Huntingfield and Halesworth, by Dr. F. ST. GEORGE MIVART.—These two villages are in the Blything rural sanitary district, where for some time past throat disease of one or another sort has occasioned anxiety; indeed, in the light of the inquiry made it is clear that fatal attacks of croup, croupous laryngitis, and membranous croup were in reality diphtheria. Huntingfield is a parish of only 378 persons; Halesworth, on the contrary, is an ancient market town and contains a population of 2316. In Halesworth diphtheria and allied throat ailments have been occurring ever since 1895, the greatest incidence of the disease being in the periods October-November, 1895; March, 1896; July, 1896; and September, 1896. The disease was essentially limited to the girls' and infants' school, and it would appear that each reassemblage of school children coincided with an increase in the number of attacks amongst those attending school. Dr. F. St. George Mivart enters with much detail into the various sanitary and other circumstances affecting each of the places on which he reports, and also into the local sanitary administration and the measures taken to control and prevent the diffusion of the disease. But, painstaking as the work on his part has been, the story is one, like so many others, in which the identification of the actual condition favourable to the spread of diphtheria is rendered impossible by the many opportunities of conveying the infection from person to person. It is, however, clear from the report that much needs to be done by the Blything rural authority to secure for their population wholesome water at a reasonable distance from their homes, to effect improvement in the local drainage arrangements, to remedy the nuisances arising from defective means of excrement and refuse disposal and other sources, and to deal with faulty conditions in the housing of the poorer classes. In like manner it is to be hoped that the prevalence of an infective disease for so long a period will prove to the authority the need for some means of isolating first attacks, so that these shall not lead to further spread. Dr. Mivart, who was some time since appointed a temporary medical inspector, has shown, in an inquiry that did not easily lend itself to any etiological discovery, that he has distinct capabilities for studying every condition and circumstance likely to elucidate the origin and course of preventable disease.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Brighton Urban District.—The Registrar-General's estimate of the population of Brighton at the middle of 1896 was 120,499, but Dr. Newsholme gives reasons for concluding that the population is somewhat under-estimated, although he takes the Registrar-General's estimate as a basis for the death-rates, &c. The birth-rate for Brighton for 1896 was 25·1 per 1000, being the lowest rate, with the exception of Halifax, of all the thirty-three great towns. Brighton's death-rate was for 1896, the lowest yet recorded for that place, being but 16·1 per 1000, as compared with 18·8 in 1895 and 16·4 in 1894. Dr. Newsholme has worked out the death-rates of the several wards of his district, and in discussing the high rates of certain of the wards he draws attention to the proportion of houses to public-houses, the proportion varying from one public-house to eighteen houses (108 inhabitants) in Pavilion ward, to one public-house to 211 houses (1380 inhabitants) in Preston ward. Dr. Newsholme points out that mortality is indirectly promoted by neglect and partial starvation caused by the waste of money on the part of the bread-winners in the public-houses, while conversely the insufficient accommodation procurable at small rents tends to drive the worker to the public-house for comfort, and so the "evil results of alcoholism and overcrowding act and react in a vicious circle." In treating of the subject of infantile diarrhœa Dr. Newsholme observes that it would be a great gain from a preventive standpoint if sterilised whole milk could be purchased in small sealed bottles during the summer months, and it would seem to us that there can be no doubt that when the risks which milk undergoes in its transit from the cow to the consumer are more fully appreciated by the public, the sale of sterilised milk in the manner suggested will become more common. In the report before us the subject of the prevention of syphilis is touched upon, and Dr. Newsholme reminds his readers that the death records under this head are obviously much understated. He regards syphilis as probably, next to alcoholism, the most fertile cause of ill-health and death. The effects of this disease can only be diminished, Dr. Newsholme considers, "by the enforcement of all preventive measures against known immorality, and of the treatment—and where practicable the segregation—of all men and women who have become infected."

Brighouse Urban District.—Dr. Meredith Young expresses doubt as to whether school closure, for preventing the spread of measles, is a wise measure, and his doubts are founded partly on the contention that children, if relieved from school attendance, spend a large portion of their time outside their houses in all conditions of weather—an exposure which he considers must lower their vitality, and thus their power of resisting infection. He is therefore relying upon the exclusion of infected children and of children from invaded houses. Dr. Young is evidently much impressed with the evils of black smoke in Brighouse, which he regards as a standing disgrace and a danger to public health. He calls attention to the manner in which smoke condenses atmospheric vapour and thus tends to produce a damp and cold climate, while at the same time by preventing the passage of sunlight it deprives the population of the disinfecting property of sunlight and of the stimulating effect which such light produces upon the spirits of the people. The injurious effect of the products of combustion upon architecture and vegetation is also referred to, and it is pointed out that the time limits for "dense" or "moderate" smoke in Brighouse (ten minutes per hour) are much more favourable to the manufacturers than are those in any of the busiest and largest manufacturing towns in the north of England. In reference to the argument that the prevention of black smoke would not prevent the emission of sulphur vapours, &c., Dr. Young insists that these latter are capable of rapid diffusion and are quickly diluted with large volumes of air.

Stoke-upon-Trent Urban District.—The principal trade of the district is that of pottery, and Dr. Samuel Johnson reports that the potters work under much better conditions than heretofore. The workers, however, will not take proper advantage of the respirators which they are advised to use, and the potter, like the Sheffield grinder, regards these devices as eminently irksome. The provisions for preventing lead poisoning are, Dr. Johnson tells us, much improved, as there are now separate mess-rooms for the workers, who are encouraged to wash before taking their meals, and to wear overalls which are left at the works.

Halifax Rural District.—An instance is recorded in Dr. Meredith Young's report for this district of a case of lead poisoning which was apparently due to the consumption of well water which had been in contact with the leaden barrel of the pump. The well water was analysed and found to contain four-fifths of a grain of lead per gallon and to be also organically polluted. It is a somewhat remarkable fact that no symptoms of lead poisoning were observed among several other persons who were habitual consumers of the water in question.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5709 births and 3310 deaths were registered during the week ending June 26th. The annual rate of mortality in these towns, which had been 15·6 and 15·8 per 1000 in the two preceding weeks, declined again last week to 15·7. In London the rate was 14·6 per 1000, while it averaged 16·5 in the thirty-two provincial towns. The lowest death-rates in these towns were 9·9 in Brighton, 11·1 in Blackburn, 11·8 in Huddersfield and in Leicester, and 12·1 in Bristol; the highest rates were 19·8 in Sunderland, 20·4 in Preston, 20·9 in Liverpool, and 22·3 in Bolton and in Salford. The 3310 deaths in these towns included 404 which were referred to the principal zymotic diseases, against 379 and 354 in the two preceding weeks; of these, 167 resulted from measles, 77 from whooping-cough, 68 from diarrhœa, 46 from diphtheria, 29 from scarlet fever, and 17 from "fever" (principally enteric). No deaths from any of these diseases were recorded last week either in Croydon, Swansea, or Norwich; while they caused the highest death-rates in Bolton, Manchester, Salford, and Preston. The greatest mortality from measles occurred in Burnley, Liverpool, Bolton, Cardiff, Manchester, Preston, and Salford; from whooping-cough in Derby, Sunderland, and Manchester; and from diarrhœa in Preston. The mortality from scarlet fever and from "fever" showed no

marked excess in any of the large towns. The 46 deaths from diphtheria included 24 in London, 6 in Birmingham, and 3 in West Ham. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and there were no cases of this disease under treatment in any of the Metropolitan Asylum Hospitals on Saturday last, June 26th. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2789, against numbers increasing from 2380 to 2670 on the eight preceding Saturdays; 267 new cases were admitted during the week, against 274, 255, and 274 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 191 and 141 in the two preceding weeks, were 142 last week, and were 71 below the corrected average. The causes of 59 or 1·8 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Nottingham, Hull, Newcastle-upon-Tyne, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Leicester, Preston, Halifax, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 19·4 per 1000 in the two preceding weeks, was again 19·4 during the week ending June 26th, and exceeded by 3·7 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·7 in Paisley and 15·8 in Aberdeen, to 27·1 in Greenock and 35·8 in Paisley. The 577 deaths in these towns included 21 which were referred to measles, 20 to diarrhœa, 16 to whooping-cough, 6 to "fever," 4 to scarlet fever, and 2 to diphtheria. In all, 69 deaths resulted from these principal zymotic diseases, against 94 and 87 in the two preceding weeks. These 69 deaths were equal to an annual rate of 2·3 per 1000, which was 0·4 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had declined from 30 to 24 in the three preceding weeks, further fell to 21 last week, and included 10 in Edinburgh and 9 in Leith. The deaths from whooping-cough, which had been 37 and 29 in the two preceding weeks, further declined to 16 last week, of which 10 occurred in Glasgow. The deaths referred to different forms of "fever," which had been 8 and 5 in the two preceding weeks, were 6 last week, of which 5 were recorded in Glasgow. The 4 fatal cases of scarlet fever were within 1 of the number in the preceding week, and included 2 in Aberdeen. The deaths from diseases of the respiratory organs in these towns, which had been 108 and 109 in the two preceding weeks, declined to 104 last week, but exceeded by 17 the number in the corresponding period of last year. The causes of 41, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the four preceding weeks from 28·3 to 19·7 per 1000, rose again to 21·8 during the week ending June 26th. During the past twelve weeks of the current quarter the death-rate in the city has averaged 27·9 per 1000, the rate during the same period being 15·7 in London and 25·5 in Edinburgh. The 146 deaths registered in Dublin during the week under notice showed an increase of 14 upon the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against 14 in each of the two preceding weeks; of these, 5 resulted from diphtheria, 2 from measles, 2 from diarrhœa, 1 from scarlet fever, and 1 from whooping-cough. These 11 deaths were equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 1·6 in London and 2·7 in Edinburgh. The fatal cases of diphtheria, which had been 1 and 3 in the two preceding weeks, further rose to 5 last week. The deaths referred to measles, which had declined from 5 to 1 in the four preceding weeks, rose again to 2 last week. The mortality from scarlet fever and from whooping-cough was below that recorded in any recent week. The 146 deaths in Dublin last week included 28 of infants under one year of age, and 32 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons exceeded the number in the preceding week. Eight inquest cases and 8 deaths from violence were registered; and 52, or more than a third, of the deaths occurred in public institutions. The causes of 8, or more than 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-CAPTAIN H. I. POCOCK has proceeded to Devonport, and will subsequently proceed to Aldershot for field training. Brigade-Surgeon-Lieutenant-Colonel R. C. Eaton has assumed charge of the Station Hospital, Newcastle-on-Tyne. Surgeon-Captain Corkery has been transferred from Bermuda to the Cork District in exchange with Surgeon-Major Donaldson. Surgeon-Major Johnston has returned from Okehampton to Devonport, and assumed Command of the 1st Field Hospital about to be mobilised.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Captain Jackson, A.M.S., are replaced at the disposal of the Government of India, in the Home Department. Surgeon-Lieutenant-Colonel A. E. R. Stephens, Bengal Establishment, retires from the service subject to Her Majesty's approval, as does also Surgeon-Lieutenant-Colonel S. B. Haliday.

ARMY MEDICAL RESERVE OF OFFICERS.

The under-mentioned Surgeon-Captains to be Surgeon-Majors:—G. Harrison and W. H. Packer, M.D.

VOLUNTEER CORPS.

Artillery: 1st Essex (Eastern Division, Royal Artillery): Surgeon-Captain A. Morris resigns his commission. 1st Glamorganshire: David Arthur Davies, M.B., to be Surgeon-Lieutenant. *Rifle:* 2nd (the Weald of Kent) Volunteer Battalion the Buffs (East Kent) Regiment: Surgeon-Lieutenant H. W. Joyce resigns his commission. 5th (the Hay Tor) Volunteer Battalion the Devonshire Regiment: Surgeon-Major W. G. Scott, M.B., resigns his commission. 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Major D. B. Balding to be Surgeon-Lieutenant-Colonel. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant A. J. Anderson, M.B., resigns his commission. 2nd Volunteer Battalion the Durham Light Infantry: Brigade-Surgeon-Lieutenant-Colonel J. Mitchell resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement, vacating at the same time his appointment in the Tyne and Tees Volunteer Infantry Brigade. 1st Dumbartonshire: Surgeon-Lieutenant W. Little, M.D., resigns his commission.

A HOSPITAL WITH A HISTORY.

The military hospital at La Rochelle lately visited by President Faure has a remarkable history, which not only contains an interesting and instructive moral, but is likewise perfectly authentic. Towards the commencement of the thirteenth century M. d'Aufredi, a worthy owner and equipper of privateers, was one of the most important inhabitants of the important haven of La Rochelle. Being very rich and hospitable his list of friends was naturally an extremely lengthy one, and thoroughly satisfied with his lot he thought he was the happiest of men. One morning, however, the alarming rumour spread with characteristic speed that the whole of his fleet had been engulfed during a tempest in the Indian Ocean, and the unfortunate merchant awoke to find himself utterly ruined. The friends to a man turned their backs on him, and the ex-possessor of millions was compelled to become a porter in order to earn a miserable livelihood, while his wife, the incomparable Pernelle, sold fish in the public streets. In this way two years passed slowly by. Then, one fine afternoon, lo! two ships appeared on the horizon making their way towards the harbour, and presently they arrived close enough to be recognised. The returning vessels formed the van of d'Aufredi's squadron, which ere long hove in sight laden to the water's edge with the choicest treasures of the East. Needless to say, the friends were now loud in their offers of

service and assurances of undying affection, but, like Timon, d'Aufredi would have none of them. He and his admirable wife resolved to devote themseves and their recovered wealth to the cause of the poor and suffering, with whose good qualities they were now acquainted. During their period of trial they had received much kindness from their humble neighbours, and in order to benefit the class whose members did good without any expectation of reward they decided on founding and endowing the hospital that still bears their name. For close on twenty years the devoted pair continued to minister personally to the needs of the patients, and when at length death claimed his dues the whole of their fortune became the property of the institution. An inscription, setting forth the facts as above related, is to be seen in the vestibule of the existing building.

THE LATE ADMIRAL SIR WILLIAM MENDS, G.C.B.

The death at Alverstoke, Hants, on June 26th, of this old and very distinguished officer should not pass unnoticed in our columns, for the late admiral took part in many transactions affecting the medical services, and it is well known that he was greatly interested in the welfare of medical officers generally. He was one of the best type of naval officers of the past generation—single-minded, fearless, independent, and enterprising. Nothing could have exceeded his thoughtful care and consideration in meeting the views and wishes of the Army Medical Service in fitting out the *Victor Emmanuel* as a hospital ship for the first Ashanti expedition under Sir Garnet Wolseley. Admiral Sir William Mends, in order to meet the views of the medical service, executed a number of proposals which had never before been adopted under such circumstances, with the result that the late Professor Parkes said it was altogether the best and most perfectly fitted out hospital ship that had ever left the shores of this or any other country. Admiral Mends also rendered the medical officers of the army very opportune and independent support as a member of the commission of inquiry appointed at the end of the Egyptian war of 1882. On the conspicuous part he played as a naval officer and seaman on several occasions during his active service there is no need to dwell, for this is well known—in fact, a matter of naval history.

HEPATITIS AND ALCOHOL.

In a recent article on the health of the Spanish army Dr. Vantalon draws attention to the remarkable immunity from hepatic affections enjoyed by the European troops quartered in the Philippine Islands. Dysentery, the constant associate, or forerunner, of inflammation of the liver is very prevalent, causing heavy mortality in addition to serious loss by invaliding; but hepatitis is not even mentioned in the returns. Evidently the omission cannot be an oversight; it must be due to the non-occurrence of an affection which elsewhere within the intertropical region, and especially at Tonkin, is so widespread and fatal. The author is inclined to attribute this exemption of the Spanish soldiery from one of the most deadly of Oriental diseases to their admirable and universal sobriety. They one and all eschew the horrible compounds of which such alarming quantities are habitually consumed in French colonies under the fallacious designation of *apéritifs*. The name of these vile poisons is legion; and nothing conduces more to gastro-intestinal trouble than the pernicious custom of "nipping"—that is, of drinking small quantities of undiluted, or very slightly diluted, spirit—at all hours and under any pretext.

THE SURVIVORS OF THE BALACLAVA CHARGE.

Mr. T. H. Roberts, of 158, Fleet-street, had the happy idea of entertaining, on the occasion of the Diamond Jubilee, the survivors, some seventy in number, of the Light Brigade who fought at Balaclava. Twenty of these he found in very needy circumstances, and two of them, we are sorry to say, came out of the workhouse. Mr. Roberts is anxious to raise a fund so as to provide at least food and shelter for these men for the remainder of their lives. They are all about seventy years of age—a time of life when a man may reasonably expect a little rest. If any of our readers feel inclined and are able to send something for this good object Mr. Roberts will gladly receive it, and he has generously undertaken to defray all expenses connected with the collection and administration of the fund.

IMPROVEMENT OF THE FIELD RATION FOR THE NATIVE ARMY OF INDIA.

Among the questions, says the *Pioneer Mail* of the 9th ultimo, engaging the attention of the Indian military authorities is that of improving the rations of sepoys and followers on field service. The experience gained in frontier expeditions shows that a change is necessary, as the ration invariably has to be supplemented with extras. The serious outbreak of scurvy in the Indian brigade at Suakim, where the officers as well as the men suffered, was also too significant to be overlooked.

SURGEON-GENERAL H. T. READE, C.B., V.C. (RETIRED).

We much regret to record the death of this distinguished officer, who was a brave, conscientious, single-minded, and most amiable man. A short obituary notice will be found in another column.

DEATHS IN THE SERVICES.

Surgeon-Captain Christopher Clemons Cassidy, I.M.S., from the effects of the wounds received in the Tochi attack. He entered the service in 1891.

NEW HOSPITAL AT BARRACKPORE.

We learn from the Indian papers that a new hospital for British troops is about to be built at Barrackpore at a cost of Rs. 95,000.

Correspondence.

"Audi alteram partem."

"ON THE MECHANISM BY WHICH THE FIRST SOUND OF THE HEART IS PRODUCED."

To the Editors of THE LANCET.

SIRS,—I read with great interest the able article on the above subject in THE LANCET of June 19th by Sir Richard Quain, and when I had finished reading I said, These views are those of the late Dr. Arthur Leared, with whose writings evidently Sir Richard Quain is not acquainted. I then hunted out Dr. Leared's graduation thesis,[1] which I had not perused for nearly twenty years, and I there found my impressions amply corroborated, but that I may do no injustice either to the dead or the living I shall quote very freely from Dr. Leared's work, and then your readers can readily compare his views with those of Sir Richard Quain. "All sounds formed in connexion with the circulation are produced by and in the blood itself, and their mechanism is virtually the same. If this statement be true it would be found in practice that a sound of one species would be liable to be changed into a sound of another species. And this is the case, for the normal first sound of the heart is under certain pathological conditions converted into a murmur; and, on the other hand, a murmur thus produced may again give place to the natural sound. In short, all the sounds may be regarded as modifications of a typical sound, because under varying circumstances they are convertible into each other." He then gives a series of experiments in support of these views, from which he draws the following conclusions: "Two important principles were established by these experiments. First, that sounds may be formed by the motion of fluids only. Second, that the quality of a sound thus formed is materially influenced by the nature of the fluid. The sounds formed by the circulation of the blood are produced on principles similar to those detailed in these experiments. I shall, therefore, for convenience, and as conveying their true nature, designate them as blood sounds. Blood sounds are divisible into two classes—sounds which give the impression of a shock; sounds which give the impression of a current. Shock sounds (*bruit de choc* of French authors) comprise the normal sounds of the heart, and certain abnormal sounds formed in aneurysmal sacs. Current sounds are formed in the heart, in aneurysmal sacs, and in the larger arteries and veins. These sounds are all abnormal; they are extremely diversified; some closely resemble shock sounds, others are aptly compared to the blowing of bellows, to rasping, sawing, cooing, &c."

It is thus seen that Dr. Leared's theory also accounted for the production of murmurs, and the similarity of his

[1] On the Sounds Caused by the Circulation of the Blood. London: John Churchill, 1861.

views with those of Sir Richard Quain as to the causation of the first sound will now become apparent. "We are now in a position to comprehend the formation of the sounds of the heart. If the condition of the blood through the heart and arteries were equable no sounds whatever would be produced in a state of health. But the blood is, by the action of the heart, thrown into impetuous and interrupted motions, and these give rise to normal sounds, known as the first and second sounds of the heart. Both are formed in the outlets of the two great vessels,[2] and the mechanism of both is essentially the same. The *first sound* coincides with ventricular systole and is caused as follows: Blood having been forcibly driven from the ventricles into the aorta and pulmonary artery comes into forcible contact with blood in these vessels which, supported by the semilunar valves, had attained a state of momentary repose. The impact between the fluid in motion and that in a state of rest gives rise to the sound. The well known thumping sound heard during the action of the common forcing pump is chiefly due to an analogous cause—that is, to the impact between the water thrown into violent motion and stationary water in the discharge pipe. But the analogy between the conditions causing the heart sound and those causing sound in the experiment with glycerine is more complete than might be at first supposed. The column of glycerine forcibly driven through the glycerine at rest does not, owing to its viscidity, diffuse itself so as to cause friction between its molecules and those of the surrounding fluid sufficient to produce murmur, and an imperfect shock sound results. But enclosure in a tube of both the moving and stationary blood, and their separation by valves, greatly favours the development of sound on the same principles. Four conditions are necessary for the production of the perfect first sound:—(1) Sufficient viscidity of the blood; (2) sufficient force in the circulation; (3) sufficient pressure upon the blood; (4) the absence of obstruction at the outlets of the heart.

"When all these conditions are fulfilled the result is a true shock sound. If, however, the first condition, viscidity, is wanting, we find in place of it the blowing sound of anæmia, as already mentioned. The force of the adult left ventricle has been variously stated, but the estimate of Valentin, that it is sufficient to overcome a resistance of 4 lb. seems probable. It is, at all events, certain that when the force of the heart is much diminished, as occurs in certain fevers and in syncope, the first sound becomes impaired or is altogether lost. The fact that pressure upon the blood prevents murmur by preventing friction need not be here repeated. A common cause of diminished pressure is incompetency of the intracardiac valves, since regurgitation reduces the volume of blood sent into the outlet vessels. The fourth condition, absence of abrupt interference with the current, is resolvable into the third. For any obstruction at the mouth of the aorta or pulmonary artery, whether it be contraction of its calibre or the projection of an atheromatous deposit, must cause diminished pressure in the vessel beyond the obstruction. The principles upon which *bruit de soufflet* is then formed have been already detailed.

"It is highly probable that a deviation in any of these conditions, although too slight to destroy the character of the sound, causes a corresponding modification of it. The water and glycerine used in separate experiments respectively represented exaggerated conditions of thinness and viscidity of the blood, and I have obtained intermediate results by employing fluids of medium viscidity. But the delicate relation between pressure and viscidity that exists in the living body was wanting in the experiments. A close study of this relation will alone throw light on the modifications of all the sounds produced by the circulation. Everyone accustomed to study the heart's sounds must have observed wide variations in these sounds, even regarded as within the limits of health. For instance, in the robust subject we frequently hear sounds of a dull and muffled character compared with the loud and resonant sounds in the delicate. These facts cannot be explained on any prevailing theory of the heart's sounds, but are entirely in accordance with my views—that unusual pressure and viscidity, by which are implied an abundance of blood rich in fibrin as would occur in a vigorous subject, cause the sounds to be relatively low. Probably impairment or loss of the first sound in certain fevers in which the fibrin of the blood is known to be in excess is partly due to consequent increased viscidity. The first sound is always affected in fever before the second, and this circumstance, as well as the fact that the second is much less subject to alterations than the first, will be afterwards seen also to depend on the mechanism of the sounds at present advocated."

Dr. Leared's views were not widely accepted, nor did they perhaps receive that attention which they merited. He, however, held firmly to them, and in a letter which I had from him a short time before his death he said: "We would agree to differ." Sir George Johnson tentatively adopted Dr. Leared's shock theory, apparently because it seemed to explain his theory of the causation of a double first sound, but although he afterwards dropped Dr. Leared's views, and allowed the whole foundation on which his theory was built to be cleared away, yet he adhered with his usual pertinacity to his hypothesis that the auricle produced the first element of a double first sound. Blood is an incompressible fluid, and the sudden impact of a column in motion against one at rest, or the sudden arrest of a column in motion, must set up vibrations, but that the sounds of the heart are thus *directly* caused is quite another matter. A soft tallow candle in a rifle can be driven through an inch board, and no doubt a similar force applied to a column of liquid—a less compressible body—would have a similar effect. A small jet of water at the bottom of a deep reservoir issues with great force, and will produce audible vibrations against any obstructions to its exit, but that the violence necessary to produce an audible shock between the columns of blood in the heart and great vessels is ever present in the heart I very much doubt. A few nights ago I saw with Dr. Murdoch a patient suffering from aortic regurgitation; the violence of this heart and its recoil were sufficient, not merely to shake the body of the patient, but also the bed on which he lay. This rifle heart did not produce any particularly loud first sound.

If I were to accept the views of Dr. Leared and Sir Richard Quain I would be quite prepared to go a step further and express an opinion that the Great Designer had not provided us with a very perfect pump, and I would mildly suggest that He should have followed the lines of water companies, and put something like a screw tap, rather than a stopcock, on the main vessels. The shock produced by a column of blood sufficient to cause the first sound of the heart would verberate and reverberate throughout the whole arterial tree, and I should not like to hazard an opinion as to the strength of tubing which would be required to endure such repeated shocks for three score years and ten. It is true Dr. Leared advances a similar view against the valvular theory.

"Dr. Markham asks, 'Can membranes and chords be suddenly and forcibly stretched and remain toneless?' I venture to ask, Is it possible that we constantly suffer so much internal violence and survive?"

I quite accept this idea of violence to the valves, and think that in disease we are often called upon to modify it. I believe it is mechanical violence which determines the much greater frequency of diseased valves in the left than in the right side of the heart in cases of acute rheumatism. The violent impact of the mitral cusps sets up a proliferation of the sub-endothelial layer, which bursts through the endothelium and gives rise to a row of fine vegetations along the auricular surface of the edges of the valve, just where the cusps are brought into violent apposition. In the case of the aortic valve the vegetations first occur on the ventricular surface just where the semilunar segments are brought into forcible contact by high tension in the aorta. In order to prevent heart lesions in acute rheumatism I always see that the arterial tension is kept low by the use of salines, &c. Again, the long-continued strain on the mitral valve in cases of granular kidney leads to thickening of the cusps and often to narrowing of the orifice. If the right side of the heart was subjected to the same strain it is probable that its valves would not so frequently escape. I have long been in the habit of diagnosing the condition of the valves from the character of the sounds, and my treatment has been much influenced thereby. I have at present no intention of bringing forward any constructive theory as to the cause of

[2] "On this point the assertion of so competent an authority as Cruveilhier is worth quoting. In his examination of the remarkable case of an infant born with heart exposed he found that the maximum intensity of both sounds was at the same place—the base; and he observes, 'Hence it is at the base of the organ we are to look for the cause of these sounds.'"—Cruveilhier, Gazette Médicale de Paris, 1841.

the first sound of the heart. My object now is purely destructive; and if I have contributed in any way towards the demolition of the theory set up by Sir Richard Quain I shall feel satisfied. No doubt this theory has already received the *imprimatur* of Dr. Pettigrew, but that neither establishes its accuracy nor its originality.

I am, Sirs, yours faithfully,

Liverpool, June 20th, 1897. JAMES BARR.

THE TEETH OF TO-DAY.

To the Editors of THE LANCET.

SIRS,—Caries of the teeth is by no means a new disease, as the examination of Egyptian mummies 2000 years old shows; but taking modern times and civilised communities there can be no doubt as to its increasing prevalence in the present generation. This statement is based upon the results of a series of examinations of the teeth and jaws in skulls of different periods, both British and foreign, by clinical observation and the law of supply and demand, the number of dentists increasing in a ratio out of all proportion to the increase in the population. Some think, and perhaps with a certain amount of truth, that this increase in disease is more apparent than real, as so much more importance is attached to the teeth both from a health and æsthetic point of view; but that former generations appreciated good teeth may be gathered from the works of Smollett, Fielding, Mrs. Radcliffe, and others, in which the heroine is invariably described as having "pearly teeth." Our premisses being granted, it behoves us to endeavour to discover the causes of this degeneration with a view to their removal where possible. "Degeneration may be defined," says Ray Lankester, "as a gradual change of the structure in which the organism becomes adapted to less varied and less complex conditions of life; whilst elaboration is a gradual change of structure in which the organism becomes adapted to more and more varied and complex conditions of existence. In elaboration there is a new *expression* of form corresponding to new perfection of work in the animal machine. In degeneration there is *suppression* of form corresponding to the cessation of work." Degeneration is doubtlessly taking place in the teeth and jaws of man.

In structure and character the teeth are becoming more and more faulty, having, perhaps, pits in the enamel and jagged edges—honeycombed teeth—fissures, grooves, and other imperfections not traceable to disease. Microscopically, the dentine often presents cavities in its substance known as "interglobular spaces" and due to imperfect calcification, all of which lesions render them liable to caries. It was until quite recently believed that teeth which easily fall a prey to caries were deficient in lime salts, but the elaborate experiments of Black in America and Charles Tomes in this country have disproved this view. Numerically the teeth are becoming less, the wisdom tooth often failing to make its appearance, and perhaps the absence of the superior lateral incisor is more frequently observed. The shape of the jaw is changing from the square to the V-shaped, the so-called "educated jaw," and this is generally associated with irregularity, which is a potent predisposing cause of caries. The main factor of this degeneration and the prevalence of caries is to be found in the modern mode of living and civilisation generally. Let us take the life-history of a tooth temporary and permanent. First, in its embryonic stage, the mother while pregnant, if in the lower class, must necessarily go about her work as usual, and added to that there are those frequent strikes entailing so much privation and anxiety. What sort of children does one expect these women to bear? Weak, sickly, puny, probably rickety, and certainly with mal-developing teeth. And if in the higher ranks of life the future mother still pursues her round of gaiety and fulfils her social obligations. Now, would Lord Rosebery or any breeder of horses allow his mares when in foal to work? Moreover, it is becoming less and less common for mothers in the upper classes to suckle their children, and all this must have a deleterious effect on the developing teeth.

Later, when the second set are erupting or not yet fully calcified, our children lead a very different life to those of our ancestors—far more excitement, late hours, cultivation of the intellect at the expense of the physique, and cramming at school all tend to injure the developing teeth both by interfering with nutritional changes and locally by bringing about an unhealthy condition of the mouth. By the way, I think that sweets as a cause of decay have been much maligned. Sugar is the natural food of children; if not, why should the taste be so universal and why sugar in mother's milk? I believe they do harm only when causing dyspepsia. And now I come to adults, in whose teeth it is generally maintained that vital action in the pulps has no influence upon the courses of caries, although I am somewhat of a sceptic on that point. Here, again, the high pressure of modern civilised life is an important factor, both as to the occurrence of caries in the individual and the transmission of degenerate teeth to the offspring. The constant whirl of excitement, whether in the pursuit of pleasure or gain, accompanied too often by the neglect of physical exercise, brings about a state of nervous exhaustion and frequent attacks of dyspepsia. And during all these periods how little work the teeth and jaws have been called upon to do with our modern cooking! This disuse of the masticatory apparatus acting through successive generations has produced degeneration and consequent proneness to disease. I have still one more predisposing cause to mention which ought not to be overlooked from a scientific point of view, though of little value from the practical side, and that is "natural selection." Men marry women with the ovoid face with narrow jaw, and not those with square massive jaws, and, further, those teeth of an azure colour and translucent appearance, which are so frail, are generally admired, not the strong yellow teeth.

I am, Sirs, yours faithfully,

W. SCOTT THOMSON, M.R.C.S., L.D.S. Ed.

Bentinck-street, W., June 1897.

CANCER AND "MORBUS MISERLÆ."

To the Editors of THE LANCET.

SIRS,—In most modern text-books on gynæcology reference is made to the alleged greater prevalence of cancer among the poor and ill-nourished than among those more fortunately circumstanced. This doctrine has lately received its apotheosis at the hands of Dr. Sinclair, who says[1]: "My experience is that uterine cancer occurs only among the working classes; the apparent exceptions are so few that they are hardly worth discussing." Elsewhere he adds: "Cancer of the uterus is most frequently met with in the lower ranks of the people of all countries. So marked is the difference of incidence that it might be reasonably affirmed that if we could place all the lower orders who suffer from privation and depressing environment for a generation or two in the position of the more favoured, we should stamp out cancer." Against the acceptance of this misleading doctrine I would urge the following considerations:—1. During the last half-century the wealth of the country has more than doubled; its pauperism has diminished more than one-half; crime has steadily declined; sanitary conditions have greatly improved; the mortality from zymotic, tuberculous, and many other diseases has markedly diminished; wages have gone up, while the prices of most commodities have fallen to an extraordinary extent; the consumption of meat per head has more than doubled, having now reached the amazing total of 126 lb. per year; the bulk of the people are better paid, better housed, and better fed than ever they have been before—in short, just such conditions have prevailed as Dr. Sinclair alleges are necessary to stamp out cancer; but instead of having decreased during this period the *cancer mortality has more than quadrupled*, the uterus participating in due proportion. 2 The Registrar-General's reports show that the cancer mortality is *lowest* where the struggle for existence is hardest, where the conditions of life are most squalid, the density of population greatest, the tubercle mortality highest, the general mortality highest, and where sanitation is least perfect,—in short, among the industrial classes in our great towns; whereas among the wealthy and well-to-do, and among the agricultural community, there the cancer mortality is *highest*. The experience of those engaged in prisons, workhouses, and lunatic asylums points in the same direction, for cancer is comparatively rare among the inmates of such institutions, as it is also among the intemperate. Of like import is the great frequency of the disease in civilised communities, whereas among savages it is almost unknown. 3. The *ensemble* of facts relative to the life-history of cancer

[1] Allbutt's System of Gynæcology, 1897, p. 657.

patients shows that they have almost invariably led regular, sober, and industrious lives. Persons of drunken and dissolute habits are comparatively seldom affected. Of 160 uterine cancer patients under my observation not a single one, so far as I could ascertain, had ever been addicted to prostitution; and, what is still more remarkable, only one presented undoubted signs of having had syphilis. The marked fecundity of uterine cancer patients, the rarity of sterility and abortion among them, all point in the same direction, for such conditions are of frequent occurrence in prostitutes and in the syphilitic. Such considerations as the foregoing seem to me to negative the doctrine of cancer being *morbus miseriæ*. They point to the greater prevalence of the disease among the well-to-do and easy-going, who habitually eat more than is good for them.

I am, Sirs, yours faithfully,

June 24th, 1897. W. ROGER WILLIAMS, F.R.C.S. Eng.

"UNQUALIFIED PRACTICE IN CORNWALL."

To the Editors of THE LANCET.

SIRS,—Referring to your leading article in THE LANCET of June 26th, will you kindly allow me to indicate two points which the President of the General Medical Council and his colleagues may press upon the President of the Local Government Board? The first is that the Select Committee of the House of Commons appointed to inquire into the subject of death certification reported some years ago, their first recommendation being that no death should be registered without a certificate from a duly registered medical practitioner or from a coroner after inquest. It is well known that the registrar has power to accept the best information he can get when no medical certificate is forthcoming and there are no grounds for referring the case to the coroner. It would surely only be reasonable to urge that the Registrar-General should give effect to the recommendation of the committee, and instruct his officer to refer every death not certified by a duly registered medical practitioner to the coroner. This would effectually close what is at present a most dangerous loophole for irregular practice. The second point is that which you have indicated near the end of the article: "It is high time that the whole system of unqualified practice in all its forms was more systematically studied by the General Medical Council." Liverpool has, like most seaports, swarmed with advertising quacks for the last forty-five years to my knowledge. These men practise and advertise with an effrontery which is evidently their strong point, and which would appear to recommend them to the public. One of these men was convicted some years ago of obtaining money by fraud, and was sentenced by Mr. Justice Day (who lamented that it was the highest sentence he could give him) to five years' penal servitude. His qualification consisted of a conviction for theft and of his having been for years a bill-sticker for another local quack, who fled to escape justice some years ago. Shortly after his conviction the name of a duly registered surgeon who had been associated with him in his infamous work was erased from the Medical Register; but so far from the establishment being broken up, as might have been expected, it flourishes more than ever, being kept up by the convict's wife, assisted by the ex-registered surgeon, whose name appears boldly on a brass plate as Mr. ——, surgeon, and by a Dr. ——, whose name also appears on a brass plate with the words physician and surgeon. The first name also appears as surgeon in two places in the local directory. It was stated at the trial that the convicts' receipts for years past had amounted to several thousands annually, and at a recent inquest on the body of a woman who had been under the care of Dr. —— and Mr. —— the weekly cash receipts were given and were very large. Is there no remedy for such a state of things?

I am, Sirs, yours faithfully,

Liverpool, June 28th, 1897. FRED. W. LOWNDES.

CYCLING FOR WOMEN: ITS EFFECTS ON PARTURITION.

To the Editors of THE LANCET.

SIRS,—Two cases that I have recently attended show that frequent bicycle exercise and continued pressure of a hard saddle may act as a cause of delay in the second stage of labour. Both were primiparæ, of good physique, and accustomed to daily riding, in some cases long distances. The presentation was natural in each case and the labour easy until the head rested on the perineum, which was unusually tough and unyielding. The bowels and bladder had previously been emptied, and the child's head was of moderate size. After applying the usual remedies and waiting a considerable time delivery was quickly effected with short forceps without tearing the perineum in the slightest. It seems quite probable that long rides and the use of hard saddles caused the difficulty in these two cases, and it is as well perhaps that attention should be directed to the possible inconvenience and trouble which may result from an immoderate use of the wheel, and that care should be exercised in the choice and position of the saddle.

I am, Sirs, yours faithfully,

June 28th, 1897. J. W. MCVITIE, M.R.C.S. Eng.

THE COUNTRY HOLIDAY FUND: AN APPEAL TO COUNTRY PRACTITIONERS.

To the Editors of THE LANCET.

SIRS,—Many of your readers are country readers. They must know of cottages where grown-up children have left empty places or where for other reasons there are rooms ready for guests. Would they tell of such rooms to the secretary of the Country Holiday Fund, 10, Buckingham-street, Strand? There are now some thousands of town children ready for holidays. They will enjoy them in the country, but they will enjoy them much more if they can, during their country visit, share the life of a country family, experience the different habits of living, and get familiar with the talk and life of those who have to work with growing things. The payment for each child is 5*s.* a week, and every precaution is taken that the child shall be free from all disease. I am, Sirs, yours faithfully,

Toynbee Hall, Commercial-street, E. SAMUEL A. BARNETT.

*** If any of our country readers can give Canon Barnett the information he desires they may benefit some of their own poorer neighbours as well as the little people in whose particular behalf he writes.—ED. L.

"OBSERVATIONS UPON RE-VACCINATION."

To the Editors of THE LANCET.

SIRS,—In the "Observations upon Re-vaccination" which he communicated to THE LANCET of June 12th Dr. Robert Carter advocates that in small-pox epidemics every child in whose case four years have elapsed since primary vaccination should be re-vaccinated. I should not be disposed to question this conclusion of Dr. Carter's if he had urged in its favour that much vaccination performed in this country is of poor quality, and that in consequence it is expedient in times of small-pox prevalence to re-vaccinate all children after four years in order to secure immunity to those who have not received at the time of primary vaccination the highest degree of protection which vaccinia affords against attack by small-pox. Again, had Dr. Carter maintained his thesis on the ground that, as an occurrence wholly exceptional, children have been known to contract small-pox—though necessarily of the mildest type—within four years of efficient vaccination, the argument would have been sound, if not altogether convincing. But the reason which Dr. Carter gives is of a different nature. It is that he has found children susceptible to vaccinia, in greater or less degree, as early as four years after their primary vaccination. It would have been interesting to know whether any difference was observed in the reaction of these children to re-vaccination according as they presented good, bad, or indifferent marks of primary vaccination. But, setting this question aside, has it ever been seriously claimed that the duration of the insusceptibility to vaccinia which a vaccinated person acquires is the same as the duration of that individual's insusceptibility to attack by small-pox? The distinction between the two cases was pointed out by Jenner, and has been illustrated again and again in small-pox epidemics. It would be curious if evidence of the greater duration of the protection against small-pox attack could

not have been found, for instance, in the outbreak to which Dr. Carter refers. I am, Sirs, yours faithfully,

London, June 15th, 1897. G. S. BUCHANAN.

A CASE OF SUDDEN DEATH.

To the Editors of THE LANCET.

SIRS,—In Dr. Dixon Mann's interesting article on Unexpected Deaths from Natural Causes he includes gall-stone colic among those diseases which when fatal do not usually end suddenly, but may exceptionally do so. The following case, which came under my notice in October, 1895, is, I think, of some interest in this connexion. I was called from bed at night to attend a patient whom I had not previously seen, a woman, some fifty-five years of age, living alone in lodgings. She was dead before my arrival, and the people of the house feared that she had died from the effects of poison, self-administered. Their story was briefly as follows. She had complained all day of feeling unwell and had remained in bed secretly solacing herself with brandy. Shortly after twelve o'clock, when the household had retired, she rang her bell furiously, and was found rolling upon the bed in great agony. She complained of severe pain in the abdomen and chest and said: "Give me something to make me sick; if you don't give me something to make me sick I shall die." She repeated these words more than once, was violently sick, and died. A bottle half filled with brandy lay on the bed and several empty bottles were concealed in the room. I took away with me some of the vomited matter and tested for the more common irritant poisons. It contained alcohol in abundance, but I could detect nothing else. By the coroner's order I made a post-mortem examination. The gall-bladder was greatly distended by calculi of all sizes to the number of a hundred or more. One of the smaller stones was impacted in the common bile-duct. There was extensive fatty change in the heart muscle. At the inquest a verdict was returned of death from syncope during an attack of biliary colic.

I am, Sirs, yours faithfully,

Leicester, June 29th. T. V. CROSBY, M.B. Lond.

"DEATHS AFTER OVARIOTOMY": A CORRECTION.

To the Editors of THE LANCET.

SIRS,—My attention has just been drawn to a mistake in my wording of a footnote (No. 5) on page 1538 of THE LANCET of June 5th. The note in question should read as follows: "The hot water used for this purpose has in every instance been obtained from the usual domestic boiler-supply, its temperature being regulated when necessary by the addition of *cold water previously sterilised by boiling.*"

I am, Sirs, yours faithfully,

June 28th, 1897. W. A. MEREDITH.

"SURGERY: ITS REMARKABLE PROGRESS DURING THE REIGN."

To the Editors of THE LANCET.

SIRS,—I beg to call attention to a slight error in your valuable journal of June 19th under the above heading. You state in your article that "the introduction by *Leiter* of the cystoscope has greatly facilitated the diagnosis and treatment of diseases of the bladder." The *introducer was my late master, Nitze, of Berlin* Leiter was only the manufacturer of this instrument. Hoping you will find space for this correction, I am, Sirs, yours faithfully,

Budapest, June 25th, 1897. DR. SAMUEL BAUMGARTEN.

THE LUNACY ACT, 1890, AND ITS AMENDMENTS.

To the Editors of THE LANCET.

SIRS,—The principal objects of the Lunacy Act, 1890, were stated in the "Memorandum" to be to furnish safeguards against the improper confinement of persons as lunatics; to remove the difficulty then felt in securing the speedy treatment of mental disease; to amend the law as to single patients; and to put a check upon the establishment of new licensed houses. A second Amending Bill to the above Act being now before the House of Lords the time seems favourable for considering how far the objects aimed at in the original Act have been attained during the seven years it has been in operation. On the one hand, complaints are daily heard from asylum officials of the great difficulty they experience in carrying out the numerous, and, as some think unnecessary, provisions of the Act, and of the vastly increased amount of clerical and other labour which it entails; whilst, on the other hand, it is said that the Act is evaded, that secret, illegal, and irresponsible "treatment" of the insane, and those threatened with insanity, flourishes and increases. A very influential deputation have just waited upon the Lunacy Commissioners and appear to have spoken strongly and frankly upon the latter facts.

Dr. Blandford, a member of the deputation, is reported to have said: "The intervention of the magistrate presented the greatest difficulty; the friends of the patient make every possible objection to going before the magistrate; and medical men are getting more and more afraid of signing certificates." Dr. Savage said: "At the present moment every person, whether he is a decayed gentleman or a decayed person, thinks he is justified in taking a person of unsound mind into his house, and applications are made by hundreds and hundreds of them. He believed that if it were known that there was a possibility of the cases being occasionally visited most of those people would not apply to have persons of this kind in their houses." He believed that "the present circumstances tended to secrecy." Mr. Bagot, chairman of the Commissioners, said: "There was another side to this question; he would ask, which is best—for the patient to be treated in a scientific way in an asylum, or casually in a private house?" He drew attention to the legal aspect of the case—Is certification protection against false imprisonment? and thought that all would be agreed that "any feasible plan for putting an end to what must be called the illegal treatment of lunacy was desirable." Dr. Needham, a Commissioner, thought that the strong point of the whole matter existed in the fact that there was a large amount of illicit treatment of insane people going on.

The question seems to arise, under the circumstances here narrated, whether the evils complained of would not be best met, not by further repressive legislation, but by rendering the whole machinery for reception and treatment into legally and properly constituted asylums, as into other hospitals, as little difficult as possible, a vigilant supervision, of course, being maintained upon all fresh admissions by the medical staff attached to each of them, working loyally and hand in hand with the Commissioners in Lunacy as the supreme authority.

Practically, this state of things already exists, for, under whatever Act a patient is received, once removed from the care of family and friends the medical staffs, supervised by the Lunacy Commissioners, must of necessity assume the full responsibility for any necessary detention. It is hopeless to expect that under any Act, however carefully framed, outcries of illegal detention will not arise from time to time, but such outcries should be at once silenced by the combined testimony of the Commissioners in Lunacy and the medical staffs of the present admirable institutions, both public and private, situated in every county in England.

I am, Sirs, your obedient servant,

FORMERLY A COUNTY ASYLUM SUPERINTENDENT.

THE RECENT PRIMARY FELLOWSHIP EXAMINATION AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—Over 70 per cent. of "plucks"! Over eighty of the most hardworking and intelligent of senior medical students and young practitioners told that they do not know anatomy and physiology in a manner to qualify them for responsible and accurate surgery. This is the outcome of the last primary Fellowship examination at the English College. Something is wrong somewhere. To a plain-thinking surgeon of the old school there appear to be three cardinal faults in the examination. *Fault No. 1*.—The College has departed from the original scheme of the Fellowship designed by the great leaders in surgical practice and surgical thought of fifty years ago—Brodie, Green, Lawrence,

Stanley, South, and such like. And what was the scheme? No one could at that time go in for the Fellowship examination until he was twenty-five years of age, or, in other words, until he had spent a long period in study after obtaining the Membership, which was usually taken at twenty-one or twenty-two. If this rule still held the College would not be besieged by such numbers that in order to restrict them and give a fictitious value to the Fellowship the examination has to be made eliminative by the ingenuity of the questions set. *Fault No. 2.*—Whereas the Fellowship is presumably a mark of special fitness for practising surgery, the questions in anatomy, both in the "written" and in the "*vivâ voce*" examination, have about as much to do with surgery as playing the German flute has to do with learning the German language. The anatomy questions set in the recent examination are about as useless to a surgeon as human ingenuity could devise; and if report does not belie the examination it is deemed ridiculous to suppose that Fellowship anatomy takes any cognisance of practical surgery. *Fault No. 3.*—In physiology candidates are liable to be questioned on any part of this overgrown subject, full as it is of speculation, much of which in a year or two may be cast to the winds, based upon an infinite number of experiments, and specialised to such a degree that probably no individual specialist could pass an examination in the whole range demanded of these young men. None but those possessing an encyclopædic memory can be approximately sure of passing, and the rest, the majority, and probably the most original in thought and observation, have to take their luck in a mere lottery of questions.

To my mind all this has a serious bearing on the future of surgery. These young men, at a time when their minds should be free to devote themselves to clinical study, to original observation, to self-education, and to spontaneous study in directions suggested by their work and opportunities, have to spend their time and waste their brain energy and to dwarf their outlook by devoting themselves to work, half of which no doubt may be of value, whilst the other half is little better than cramming up so many pages of a dictionary. Numbers are tempted to fritter away their energies in passing, or trying to pass, this exacting examination, who never can become surgeons, and who would profit infinitely more by serving as assistants, to a general practitioner. The temptation is great, seeing that the F.R.C.S., by sheer dint of the difficulty in obtaining it, has achieved a value far beyond its educational worth.

Let the College have the courage to go back to the original idea of the Fellowship and allow no one to go up for the "primary" examination until he has been qualified for two years. Let the "primary" be an examination really in surgical anatomy, and let it test anatomy learned by dissection, not transcendentalism got up from books. In physiology let the examination be in a carefully selected branch or area of the subject, with a certain option of selection by the candidate.

I am, Sirs, yours faithfully,

"OVER THIRTY YEARS A HOSPITAL SURGEON."

June 25th, 1897.

THE BATTLE OF THE CLUBS.[1]

(FROM OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1711.*)

LEICESTER.

Successful Formation of a Medical Union.—Partial Reforms Obtained.

THE members of the medical profession practising at Leicester have made an effort to deal with the grievances arising from contract or club work. The situation has already been fully described.[2] It will be remembered that the great majority of the population of Leicester belong to medical aid organisations of one sort or another, but that the largest of these institutions is the Leicester and Leicestershire Provident Dispensary. This society was established in 1833, and became a provident institution in 1862. It has now some 34,000 members and employs twenty-six medical men, including some of the most distinguished practitioners in the town. Though the subscriptions paid amount to 4*s.* 4*d.* per annum for adults, the medical men only receive 1*s* 9½*d.* per annum per member. There are also a great number of benefit societies in Leicester, and several financial companies which combine medical aid with a general insurance business. Shortly after the publication by THE LANCET of the full details concerning the abuses that accompany this contract work the Leicester Medical Society took the initiative, convoked meetings of the entire profession, and a medical union was constituted as a fighting body to deal with all economical questions. It was decided to subdivide the union into sections which were to meet separately. The medical men who worked for benefit societies were to form one section, those who were employed by insurance companies another section, and the twenty-six medical men who belonged to the Provident Dispensary formed another section. It is doubtful whether this was a wise course to follow. The interests and the circumstances of each group certainly differed greatly, and time might be economised by discussing separately these various matters. But, on the other hand, the prime object of a union is to engender a strong sense of solidarity between all members of the profession, however the position of individuals or of groups of individuals may differ. Medical men cannot be too well informed as to the position, the difficulties, and the opinions of other medical men. In Leicester there is considerable hostility felt against the medical staff of the Provident Dispensary. There is a tendency to look upon them as privileged individuals; and therefore their first object should have been not to meet privately, but, on the contrary, to seek to associate on every possible occasion with the other medical men so as to dispel any and every existing misunderstanding.

When the union was formed nearly every medical man in the town joined, but the sectional meetings tended to disunion. Each section strove for its own interests, instead of coming to a common agreement to commence by fighting on the line of least resistance. In fact, the true sense of unionism has not yet arisen; the members showed too much anxiety to better their own position instead of ascertaining which was the worst case or the weakest point and fighting that first. With from eighty to ninety medical men in union everything was possible had better statesmanship and greater discipline been displayed. So strong was the union that the clubs and societies met its representatives in a most conciliatory manner. The Provident Dispensary was approached and an increase of payment for the medical staff equal to about 30 per cent. demanded. Thereupon a few of the dispensary medical officers conceived the idea that the main object of the union was to attack the dispensary and that the other medical men were desirous of shattering that institution so as to pick up the fragments. The majority, on the contrary, had a better opinion, and were convinced that this was not the case. On the other hand, it could very well be urged that the dispensary medical officers were not actuated by altruistic motives. Instead of receiving 1*s.* 9*d.* per member per annum they wanted 2*s.* 6*d* This was all very well in its way, but it touched no general principle. Such a request, if granted, would improve the financial position of the dispensary staff, but it would not do away with any of the grievances that affect the profession as a whole. The point of common interest to all is the wage limit. Doubtless, to the dispensary medical officer it is very important that out of the 4*s* 4*d.* paid by the members he should receive 2*s.* 6*d.* instead of 1*s.* 9*d.*; but what effect would this have on the other members of the profession and on the public at large? So long as a patient is not able to afford more than 4*s.* 4*d.* a year for medical attendance, the sub-division of that sum between the collectors and organisers of the dispensary and the medical staff of the dispensary is altogether a secondary question. What interests the medical profession at large is that they should not lose their patients by persons being allowed to join the dispensary when they are in so good a financial position as to be able to pay the ordinary medical fees. The public, on its side, is interested in seeing that the high-standing and efficiency of the medical profession shall be maintained and not compromised as at present by excessive club practice and the careless, hasty work it involves. The dispensary medical officers should then have demanded on behalf of the profession at large and of the entire public, that the abuse of the dispensary should be checked. When this had been secured by the

[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1*s.*

[2] See The Battle of the Clubs, THE LANCET, Feb. 15th and 22nd, 1896, and page 123 of the reprint.

imposition of a strict wage limit it would have been time enough to discuss the sub-division of the 4*s.* 4*d.*

Unfortunately this was not done. The dispensary medical staff did not stand to the wage limit. The dispensary committee said they were ready to expel anyone whom the medical men might denounce, and argued that as the medical men went into the rooms of the patients they were best able to tell whether the members were able or not to pay proper fees. But this is not the case—first, because the vast majority of patients are out-patients; and secondly, because medical men can ill afford to make themselves unpopular in the town by causing people to be expelled from the societies to which they have subscribed. Nevertheless, the Dispensary Committee was on the point of yielding when some of the dispensary medical men became alarmed, and this rendered the position of the majority untenable. They were therefore obliged to accept the suggested compromise. The share of the 4*s.* 4*d.* to be paid to the medical staff has consequently been raised from 1*s.* 9*d.* to 2*s.* 2*d.* instead of 2*s.* 6*d.* as demanded. This is equal to an increase of about 15 per cent. instead of the 30 per cent. which had been claimed. Then the subscriptions for family tickets will be raised from 3*d.* to 3½*d.*, instead of 4*d.* as proposed. Further, the medical staff will now obtain a guinea fee for first accouchements and 15*s.* for second accouchements. They are also to receive 7*s.* 6*d.* for miscarriages under three months, whereas formerly no extra allowance was made for these latter cases. Altogether, it is calculated that the medical staff of the Leicester Provident Dispensary will receive between them something like £600 per annum more than they formerly obtained.

Inspired by the example of the Provident Dispensary and alarmed by the strength of the Medical Union, the Foresters' benefit society also made some concessions. They raised their scale of pay to that of the Oddfellows—namely, 2*s.* 9*d.* to all medical men and 1*s.* 3*d.* to the dispensing chemists per member. Had the dispensary medical officers held out for an increase to 4*d.* for the family tickets the benefit societies would also have moved in this respect; but as the increase obtained only amounted to a halfpenny the benefit societies did not think it worth while to make any alteration. In all this, however, it is encouraging to note that some solid advantages have been acquired. The agitation has also served to make the grievances of the medical profession known to the general public and has awakened the public conscience. A great many respectable people have now withdrawn from their clubs and have become private patients. This is a material benefit to the profession and an advantage to those who are really entitled to belong to clubs. It is also easier now for medical men to call the attention of well-to-do club and dispensary patients to the fact that they ought not to belong to such institutions, but should become private patients. In a word, in spite of mismanagement, enough has been done to conclusively demonstrate the advantage of unionism. The partial failure which the Leicester Medical Union has experienced should not, therefore, discourage its members. Instead of harping on this less pleasant side of the picture it is better to think of the partial success which has been achieved. The solid advantages gained should stimulate the members of the union to redoubled efforts. Taught by experience, they ought now to be able to perfect their organisation and improve its ethical basis so as to imbue its members with the true spirit of unionism, and thus ensure for their next effort, not a partial, but a complete success.

THE DWELLINGS IN BOMBAY.

(FROM A CORRESPONDENT.)

ALTHOUGH scientific research has not yet recognised the plague bacillus in the air, in water, or in food, and although its existence in the dejecta of the human body is still contested, Bombay has made an important step towards better sanitary conditions, for whilst deaths from plague still continue, the death-rate has fallen below the normal line, and few people can doubt that the cleansing that has been carried out so energetically during the past few months in the streets and dwellings of Bombay has had an important influence in diminishing the mortality. The magnificent main thoroughfares and public buildings of the city produce a totally false impression on the mind of the visitor who may pass a few days or weeks of the cold season in some hotel or private bungalow, the latter an isolated house in one of the best quarters of Bombay. There is nothing to attract him to the scores of miles of dirty, squalid streets or to the filthy houses which line them. It is, however, the class which lives in such quarters whose habits give the sanitary note to Bombay. It includes all Indian domestic servants; and until the Plague Commission, with its military president, by a sanitary crusade such as has no parallel in the history of India took action, the above class triumphed over every effort that was made by the municipality to improve its condition. It is true that the municipal effort did not take a very energetic form. Conservancy, drainage, and water-supply were provided, but the by-laws of the Municipal Act were not enforced, and the people did not give that personal assistance to the authorities without which no sanitary system can possibly succeed. Filth is still thrown with impunity upon sanitary inspectors from upper windows in narrow streets. A few days ago a parcel of nightsoil in paper was thrown by an office messenger from the window of a consulate into the street, and recently a bucket of water that had washed a floor and was of the colour of sewage was thrown from a balcony of the best hotel into the principal street of Bombay. These examples will illustrate the influence of the class already mentioned in the interest of disorder. Its members are not particular how they live so long as the cost is low, and as their sense of smell was dulled ages ago to all ordinary odours they are, as a rule, quite indifferent to their surroundings. Such people are very easy-going tenants, a fact that house proprietors quickly recognise, and it may safely be stated that there is no place so dark or unsavory that it cannot find a tenant. Much of what is known as the Fort and the City was built before the creation of the municipality, and before the ideas of ventilation or perflation had any place in the schemes of house building. The dominant idea of the landlord was to get the utmost accommodation upon his land, and the four-storey house with 10 to 30 ft. of frontage and a depth of 100 ft., flanked on each side by a gully not more than from 2 to 2½ ft. wide, may now be found in hundreds. The gully is, of course, an open sewer into which all house refuse is thrown, including nightsoil, which frequently adheres to the opposite walls. The air supply and light of rooms opening from the gully come through that channel. The common stair of such a house is dark and has not even a skylight; there is no exit to the roof, which is tiled, and thus the only possible ventilating shaft is inoperative. The common stair, being common property, is never cleaned; no Indian proprietor considers this to be any part of his duty. Such a house consists of a series of rooms, each of which may at any time contain a family. The only permanent fittings are a *nahni* or sink, raised a few inches above the floor and discharging through the wall into a downtake pipe which terminates at the gully, and also a low platform of masonry or mud to serve as a fireplace for cooking. There is no chimney, and wood fuel or cowdung cakes are used twice a day. The interior is thus blackened in a short time and remains black. It is the same if a special room is set apart for cooking, or even if there is a cookhouse adjoining; there is no chimney. The *nahni* is intended to receive sullage only, but it is regularly used as a latrine, particularly by women and children; and as air currents pass frequently at night from the discharge pipes into the rooms, the latter being warmer than the night air, much sickness has resulted from this cause. Wall syphons were fixed by the municipality in great numbers to the downtake pipes with a view to arrest the foul air currents, but the people persisted in putting sand, leaves (off which they eat), rags, and other solid matter into the pipes, and a staff of men was and is kept constantly employed cleansing them. There is no penalty for blocking a syphon. If no syphons are used, the descent of a small quantity of liquid from an upper floor drives foul gases from the downtake pipe into the rooms below. The indigenous channel for waste water in a storeyed house is an open groove or gutter down the face of the wall; it is common in Lucknow and Cawnpore, and its advocates say that being open to the sun and air there is no putrefaction within it as is the case in all downtake pipes. During the session of the "House Connections Committee" appointed by the corporation to inquire into the best form of connection between dwellings and sewers I

made certain experiments to ascertain the effect of falling water in vertical downtake pipes and also the effect of flushes to remove obstructions in wall syphons. The same instrument was used as in the experiments on gas pressure in the sewers, described in a previous article.[1] The experiment on the effect of falling water in a vertical downtake pipe was made at a three-storey house. The pipe was three inches in diameter at the third storey and five inches at the two lower storeys. It was open at the top of the house and sealed at the foot. The gauge was attached above the seal, and there were no wall syphons. The compression of the air at the foot of the pipe varied with the quantity of water thrown down, and with the time it took to disappear from the third storey *nahni*. Twenty pounds of water discharged in twenty seconds produced a maximum pressure of 0·88 in.; 10 lb. in sixteen seconds produced a pressure of 0·16 in. Each discharge caused a whiff of foul air to enter the lower storeys through the *nahni*. A 2½ in. pipe was next fixed to a wall to represent the height of a single storey. It was sealed at the foot and had a funnel at the top, 13 ft. 10 in. above the seal. The gauge was fixed 2 ft. above the seal. One quart thrown down the funnel produced a maximum pressure equal to 0·64 in. of water. Two quarts produced an effect almost similar, and four quarts produced an increased effect. The pressure corresponded to velocities of 26, 26, and 29 miles per hour.

Experiments to ascertain the rate of current of water required to carry all solid matter through a wall syphon, or to wash it out if it became blocked, showed that fragments of brick were washed out from a 2½ in. syphon with water flowing at a rate not less than 77·76 ft. per minute. Road metal (macadam) was washed out from a 4 in. syphon with a current at the rate of 82 ft. per minute. This syphon was then choked with gravel, sand, mud, leaves, and coir yarn, rammed in with a hammer shaft. Two flushes of three gallons each cleansed the syphon. The flushes were applied in five and five and a half seconds. Although it was clearly demonstrated that wall syphons could be cleansed by small flushes of water applied suddenly, the construction of the *nahni* precludes the possibility of a rapid flush. If fine gratings are placed on the *nahni* outlet they are broken by the people. The wall syphon is therefore a failure in Bombay because the people will not modify their habits and because municipal rules have not been enforced. The state of the atmosphere of a room which is kitchen, latrine, and bedroom all in one in a city the mean temperature of which is 79·13° F., and the shade temperature of which at the time of writing is 89°, with a relative humidity of 71 per cent., may be imagined. Only people whose sense of smell is very defective could tolerate it. Within doors the people are nearly naked; they are thus able to bear an amount of heat and an absence of ventilation that would otherwise be intolerable.

Many of the wealthy Indians have their dwellings in narrow, crowded streets, where houses reach a height of six storeys, and as rich and poor live in close proximity the result is a very high mortality. A scarcity of houses and high rents have given a permanent character to overcrowding, and should any of the schemes recently discussed for the extension of the city be realised it will probably be very difficult to overcome the habit among people whose ideas of domestic comfort would not be understood by any European. A scheme is at present in course of development by one of the leading mill managers of Bombay to provide better house accommodation for mill coolies, whose dwellings have recently been destroyed in considerable numbers as unfit for habitation. The new dwelling is of corrugated sheet-iron, each room is 12 ft. by 10 ft. with two windows, a door, and a verandah. There is a ridge ventilator and an opening below the eaves, a fireplace, and a *nahni*. It is intended to charge about one-third of the usual rent for these *chawls*. Five hundred of them are to be ready for occupation before the end of this month. The Bombay Port Trust is also building a number of well-designed labourers' dwellings, which are much needed. Hundreds of the dock labourers have no dwelling of any kind, sleeping in the streets all through the fair season and under the shop-fronts in the bazaars during the rains.

There is ample experience to prove that the dwellings of the labouring classes should have no *nahni* within the living-rooms and no water-supply indoors. They will tie any water-tap open, and let it run night and day, regardless if it produces a swamp at their door, and they will use the *nahni* for natural purposes in spite of every warning. Public latrines, well designed and well kept, are the only suitable provision for them. Their constant endeavour is to maintain the habits of the jungle while enjoying the good pay and the excitements of a large city.

The approaching monsoon and the necessity for careful legislation on the subject have put a stop for the moment to projects of wholesale alterations among the solid mass of hovels in which many thousands of the people live and die. All through the dry season they sleep in the streets, on the side-walks, but in the rains they must go indoors. The small ratio which the street area bears to that of the houses indicates that all the roofs should be flat for the sake of the healthy open-air space they would provide in congested quarters. The only remedy, short of pulling them down, that could be applied to the unventilated and unlighted blocks of dwellings would be to cut shafts through them from to top bottom of a diameter based on the height. The shaft might be used as a stairway. The distance from the outer walls to the shaft could be determined on well-known rules. Europeans, although their death-rate has been actually less during the plague than before, are awakening to the anomaly of having lived for 236 years—since the Island of Bombay was ceded—in houses utterly destitute of systematic ventilation and built by and for nations having very few of the conveniences required by Europeans. Few people arriving in Bombay from London are aware that the difference in mean temperature between the two places is 30° F., nearly one-third of the temperature of the human body; or that the principal difference between comfort and discomfort in the tropics consists in the rate at which the air in contact with their bodies is changed. The only kind of house they can hire is full of doors and windows, but has not a single opening through its roof, which extends over wide verandahs; and although pleasant during a light breeze, it is hot and stuffy during the frequent periods of dead calm. In a dead calm, which occurs every night, the only natural current possible is that due to the difference of temperature between the building and the outer air, and it can only work usefully through large openings in the roof. This arrangement is only feasible in single-storey houses. It is possible to use the sun's heat directly to produce a ventilating current through a roof. In Cawnpore I fixed a light sheet-iron chimney 22 in. square and 10 ft. high on the flat roof of a single-storey bungalow; another opening 22 in. square was made into the same room but at the opposite end. The influence of the sun's heat on the black iron heated the column of air within it 16° F. and produced a current equal to 133 ft. per minute. The circulation of air through the room by the roof openings was 26,853 cubic feet per hour, and it was free from the smell of moist earth that is often noticed in air coming through doorways from a garden. The circulation continued night and day varying in velocity and direction but always producing a sense of freshness unknown before in the house. The range of temperature and of relative humidity of the air in India produce changes to which the European constitution accommodates itself with difficulty, for the escape of surplus heat from the body must continue with unfailing regularity in all weathers. Agitation of the air, such as is obtained by the aid of a punkah, affords some relief, but is only a partial remedy. The constant renewal of the air from some pure source is one of the chief essentials of healthy life in India. In a city like Bombay it can only be realised by the aid of special mechanism, but, properly carried out, it offers a solution to the problem of providing cheap and healthy dwellings for Europeans. The high cost of land in Bombay and the excellent foundations that are to be found in and about the city are both favourable to the construction of buildings of not less than six or eight storeys, or one hundred feet high. At this elevation the air is very pure and free from insects of all kinds; it also contains very little dust, but as the wind is quite unreliable for the purposes of ventilation in Bombay a constant supply of air from the roof would have to be provided by means of a fan and probably an oil motor, and distributed through every room in the building. The upper part of the corridor, separated by a partition, would serve as a convenient air-duct to supply each room, and in this manner the ground floor would have the same advantages as the top floor, and the tenants at all times would be able to depend on a constant and uniform supply of fresh air. The restorative value of being able to sleep under such conditions cannot be

[1] THE LANCET, March 27th, 1897, p. 917.

over-estimated. The superior cooling power of the air, even at a small distance from the ground, was proved at Cawnpore at the time of some ventilation experiments. Two similar porous water-bottles were filled with water and placed one on the ground and the other on a parapet wall twenty-five feet above the ground at sunset. In the morning at 5.30 the temperature of the water on the ground was 72° F., and that on the parapet wall 68° F. A house ventilated with air taken at a hundred feet above the ground would accumulate very little dust; and as a fan engine would work well with a dynamo, electric lights might be combined with the ventilating apparatus. With regard to lifts, it is probable that the cheap manual labour of Bombay would provide a satisfactory motive power with a simpler mechanism than any of the steam and hydraulic lifts at present in use.

Once the circulation of air is assured health and comfort might be enjoyed in much smaller rooms than are now considered necessary, and in this way rents might be kept at a moderate figure; and if the details of construction were carefully adapted to European requirements the number of native domestics might be cut down to the lowest figure. This is most important, as each servant is a living nucleus of dirt and disorder unless under constant supervision. Each year as soon as the rains are over a considerable area of open park ground adjoining the Fort is covered with tents by Europeans who cannot find suitable houses. This is an annual reminder of the inadequacy of house accommodation such as has just been proposed. We must not, however, look to the native capitalists to provide such buildings. It would be unreasonable; and even were they to attempt it they would certainly ruin the internal arrangements by meddling. Such a project offers an excellent investment for English capital, as it would meet the urgent need of middle-class Europeans in a city which has for long been noted for its high rents and the abnormal profits of its house proprietors.

Bombay, June 3rd, 1897.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

THE fifteenth annual meeting of the German Congress of Internal Medicine was held in Berlin from June 9th to June 12th. An abstract of the President's address has already appeared in THE LANCET of June 19th (page 1713). On the conclusion of this inaugural discourse several speakers delivered addresses welcoming the Congress to Berlin, after which the practical work of the meeting commenced.

Chronic Rheumatism and its Treatment.

Professor Baumler (Freiburg) read a paper on Chronic Rheumatism, in which he said that the name of rheumatism has been applied to the most dissimilar pathological conditions. Properly speaking, only the chronic form of polyarticular rheumatism should have this name, whilst the other monarticular forms caused by mechanical injuries, gonorrhœa, &c., should be distinguished as traumatic arthritis, gonorrhœal arthritis, &c. The so-called "arthritis deformans" is only a progressive and advanced form of chronic polyarticular rheumatism. The etiology of the disease remains very obscure; atmospheric influence undoubtedly is of great importance, though this is denied by some physicians. The term "arthritis pauperum" is a misnomer, as the disease is not confined to the poor, but is frequent in well-to-do people also. Women are more easily affected than men; Dr. Ord has therefore suggested that the disease may be due to reflex irritation originating in the reproductive organs, but an infection originating in these organs and propagated from them into the joints would be a more probable explanation. Several physicians have suggested, chiefly on bacteriological grounds, that rheumatic polyarthritis might be an infectious disease; in 1892 Schüller discovered a bacillus in the arthritic joints; in 1894 Bannatyne and Wohlmann found a bacillus in the fluid obtained by puncturing a joint; and Blaxall has even succeeded in cultivating the bacillus.—Professor Ott (Prague) pointed out that any acute inflammation of the joints should at the outset be treated in an antiphlogistic way. The patient should stay in bed, the joints should be kept motionless, and opiates and salicylate compounds should be given. When the acute symptoms have disappeared baths are very useful. Ordinary baths are indicated when nervous irritability accompanies the affection of the joints, the water of saline and sulphurous springs is to be preferred in other cases, whilst mud baths prove useful in more torpid forms. Sand baths and Russian baths, although useful for robust persons, must not be employed for delicate or anæmic patients. Massage, electricity, and mechanical exercises are of great use in ankylosis. The general state of the patient should never be neglected, and a nourishing diet, together with iron and other roborant medicines, should be prescribed in chronic cases.—In the ensuing discussion Dr. Chvostek (Vienna) denied that bacilli are present in chronic rheumatism. He has found that the fluid in arthritic joints is sterile.—Dr. Singer (Vienna) said that he had observed staphylococci and streptococci in the urine of patients suffering from acute rheumatism, and that some micrococci were found in three necropsies. He was of opinion that streptococci and staphylococci are the causes of acute rheumatism, and argued that the acute swellings of the joints which are a well-known symptom in pyæmic affections lend support to his views.—Professor Schüller (Berlin) recommended the injection of iodoform mixed with guaiacol.—Dr. V. Noorden (Frankfurt) said that he had tried the so-called lemon cure. Theoretically there was no reason for expecting any influence on metabolism, but temporary improvement nevertheless sometimes occurred.

Epilepsy.

Professor Unverricht (Magdeburg) read a paper on Epilepsy, in which he said that he would confine his remarks to the pathology of this disease and would abstain from therapeutical questions. Experiments on animals had led him to believe that the cerebral cortex is in every instance the region from which the fit derives both its origin and its perpetuation; he therefore found himself in opposition to Kussmaul and Nothnagel, who held that an epileptic fit originated in an irritation of the medulla oblongata. The epileptic attack caused by an electric irritation of the cortex of animals consists of two parts: first, the muscles of one side and then those of the other side begin to contract. If the fits follow one another very quickly clonic convulsions of the whole muscular system occur, just as in genuine epilepsy. When parts of the motor region of the brain are removed the muscles actuated by these centres no longer take part in the convulsions; if one side of the brain is completely removed the convulsions are hemilateral only. With respect to the circulation he has discovered that during the epileptic fit the pulse is at first accelerated and the blood pressure increased; in the second stage the pulse is retarded, in the third stage it is again accelerated, whilst in the fourth stage it returns to the normal. Professor Unverricht pointed out that there is no difference between cortical epilepsy and genuine epilepsy; they are each of them only different degrees of the same illness, and when the anatomical conditions of the fits are better known the word "epilepsy" will become a more distinctive term, just as it is customary to speak of alcoholic poisoning and lead poisoning or syphilitic and uræmic convulsions. In the course of the paper it was mentioned that there are 100,000 epileptics in Germany.—In the discussion Professor Flechsig (Leipzig) remarked that bromine is retained in the organism for a considerable period. Of 80 grammes given within eight days, 41 grammes were retained; and of 24 grammes within three days, 21·5 grammes were retained. After a certain time the organism is saturated with bromine. When the bromide employed has ceased to be efficacious it must be combined with opiates.—Professor Binswanger (Jena) and Professor Jolly (Berlin), in opposition to Professor Unverricht, maintained that epilepsy might also be induced by subcortical irritation.

Etiological Therapeutics.

Professor Behring (Marburg) said that the treatment of disease with drugs had failed because it was based on experiments made on healthy animals. Allopaths err when they endeavour to correct symptoms, and their theory "*contraria contrariis*" is not more reasonable than the "*similia similibus*" of the homœopaths. Cellular pathology has proved useless as far as therapeutics are concerned. Natural therapeutic processes include—(1) phagocytosis; (2) removal of the virus by the perspiration, the urine, and the fæces; and (3) the protection afforded by the epidermis

and the epithelium. Etiological therapeutics are based upon the circumstance that the animal organism, when invaded by certain kinds of pathogenic virus, has the power of forming antidotes which not only render the particular individual immune against such virus, but are also available for administration to other individuals. The antitoxic power present in the organism of highly immunised animals is specially concentrated in the blood serum. The antitoxins hitherto discovered are not all of similar efficacy. Diphtheria antitoxin has been clearly proved to be successful, but tetanus antitoxin sometimes fails, owing to the fact that it is not usually kept in hospitals and consequently is not at hand for sufficiently early administration. Marmorek's anti-streptococcic serum is very doubtful, whilst Maragliano's tuberculosis serum contains no antitoxin at all. The antitoxins themselves are innocuous, and the removal of the causes of such undesirable symptoms as urticaria, &c., is a mere matter of improving the practical details of the manufacture. All attempts to produce a chemically pure antitoxin have failed, and must necessarily do so, owing to the fact that antitoxin is not a definite chemical compound, but is rather a quality inherent in certain albuminous substances, somewhat as magnetism is in iron. Passive immunisation by means of antitoxin is preferable to active immunisation by direct toxins. Experiments are at present being made in the hope of discovering a method of prolonging the immunising power of antitoxins. When the virus of the disease is unknown, as in the case of septicæmia, the production of antitoxin is impracticable. Professor Behring finally announced that he was carrying on researches with the view of discovering a new anti-tuberculous serum. Alluding to Professor Koch's new tuberculin, he declared it to be very valuable for the lower animals—in fact, more suitable for them than for the human subject. In concluding his address Professor Behring remarked that the prophecy that bacteriology would have no application or utility in the practice of medicine had been disproved by the introduction of the antitoxin treatment.

Graves's Disease.

Professor Eulenburg (Berlin) pointed out that the three leading symptoms of Graves's disease—thyroid enlargement, exophthalmos, and cardiac palpitation—have been supplemented in the course of time by a series of other phenomena. He mentioned specially the ophthalmic conditions described by Graefe, Stellwag, and Moebius, the so-called Marie's tremor, the diminished resistance to galvanic currents observed by Charcot, Vigouroux, and himself, the special glycosuria discovered by Chvostek, and finally all those neurasthenic and hysteric troubles which are so characteristic of this affection. Not every one of those symptoms is present in each instance of Graves's disease. There are cases where some one or other of them is but little developed or disappears during the course of the disease. Three etiological theories of Graves's disease have been advanced—the hæmatogenic, the neurogenic, and the thyreogenic. The first-mentioned is based on the prevalence of the disease among females, its commencement during adolescence, its connexion with dysmenorrhœa, and the beneficial effect of pregnancy observed in some instances. Discussing the neurogenic theory Professor Eulenburg said that all attempts to localise the affection in either the vagus or the sympathetic nerve have been unsuccessful, for its clinical symptoms, its development after severe injury, and its connexion with other constitutional neuroses, such as epilepsy, hemicrania, chorea, and diabetes, prove that the disease is a constitutional neurosis. Gauthier was the first to suggest an alteration of the chemical composition of the thyroid gland as a cause of Graves's disease, and Moebius drew attention to the contrast between its symptoms and those of myxœdema. Tachycardia, exophthalmos, mental excitement, and emaciation were caused apparently by hypertrophy, and slowness of the pulse, mental apathy, and obesity by atrophy of the thyroid gland. The gland undergoes alteration in function as well as in size, and it probably produces a toxic substance which acts on all the parts of the nervous system. On the subject of treatment Professor Eulenburg said that the hæmatogenic theory required the administration of remedies directed against anæmia and chlorosis, whilst the neurogenic theory suggested the use of electrical, psychical, dietetic, climatic, and hydropathic methods. The supporters of the modern thyreogenic thebry have recommended thyroidectomy combined with the internal use of thyroid preparations, but this operation should be reserved for cases where the local symptoms preponderate, and it is found that general treatment gives very favourable results with many patients.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The New Hospital.

As the nearness of the time approaches considerable interest is being evoked in the advent of Prince and Princess Christian to open the new hospital on July 7th. Additional zest is given to the public enthusiasm by the liberality of the licensed brewers who have arranged for the decorations which lately adorned St. James's-street, London, to be transferred to the main street of Birmingham for this opening ceremony. A few distinguished persons have been invited by the Lord Mayor of the city to meet their Royal Highnesses, whose stay will be short, and whose duties will be impressive and important.

Mason College and the Diagnosis of Diphtheria.

The health committee of the town council have made an important arrangement with the authorities of Mason College for the bacteriological examination of the products in cases of suspected diphtheria. By placing also a supply of serum for treatment at the disposal of any medical practitioner without fee an opportunity is given for the early treatment of this malady which cannot fail to afford the best chances of dealing with it in the light of the most advanced cientific discoveries.

General Institution for the Blind.

The fiftieth annual meeting of this institution was held on June 16th. The report showed that the total number of blind people who had directly benefited during the year was 518. The turnover for the sale of goods had realised over £3000, while the deficiency in income was £487 Instances were given of the value and character of the training employed, and an earnest appeal was made for more funds.

Royal Institution for the Deaf and Dumb.

Not less interesting was the annual meeting of the friends of this institution, when the opening of the new buildings with extensive improvements was declared by the Hon. Somerset Calthorpe. One hundred and eighty pupils are now educated in lip language, whose progress was markedly illustrated in the course of the meeting. Special attention is paid to physical training and various industrial pursuits, so much as to call forth high praise from the Government inspector and experts, whose testimony was appended to the report.

Government Grant to Mason College.

The additional grant of £2700 to Mason College made by the Chancellor of the Exchequer under a recent report has given rise to much satisfaction. Opportunities will thus be given for advanced work and research, which will promote the efficiency of the college in a marked degree. Money could not be better spent than in such a direction in the cause of education.

June 29th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Health of Liverpool.

THE deaths registered in the city during the week ending June 19th were 244, making a rate of total mortality equal to 19 7 annually per 1000 of the population. Of the total deaths 110 were of children below five years of age, and of these 64 were of infants below one year. In view of the prevalence of diarrhœa, which is so common at this season among children and infants, especially of the lower classes, the medical officer submitted a memorandum of precautions. Dr. Hope lays special stress on cleanliness of person, clothing, and surroundings. All water required for drinking purposes should be taken direct from a main, but if from a cistern it should be boiled before using. No filth or dirt should be allowed to accumulate within or near the house; the ash-pit should be frequently emptied, no slop water should be thrown into it, and animal

and vegetable refuse should be burned. Windows should be kept open every day for some hours. The water-closet should be frequently flushed. Other important directions as regards food are also given. Measles still continues prevalent in the city.

The Sanitary Condition of Birkenhead.

Dr. Marsden, the medical officer of health of Birkenhead, has issued his annual report on the sanitary condition of the county borough of Birkenhead. He explains that each succeeding report deals with the various agencies which are acting deleteriously upon the public health, and which tend in many ways to reduce the vitality of the community, and thus act injuriously on the well-being of the town. For the purpose of awakening sympathy with the agencies at present in operation for the improvement of these conditions, publicity is given in each successive report to the weak spots in the administration of the borough and to the unnecessary waste of life which is constantly going on and which it is the object of the report to disclose. Dr. Marsden again draws attention to the unsatisfactory homes of the working classes and to the condition of the sewerage in the older parts of the borough, with the object of stirring up the municipal authority to afford facilities for ameliorating this state of things. Dr. Marsden goes on to say that the public health of the borough during the year 1896 has been satisfactory in every way. The borough has an area of 3849½ acres—a little more than six square miles—with an estimated population of 108,818. The death-rate in 1896 was 19·44 per 1000, compared with 19·90 in 1895. The zymotic death-rate was 3·32 per 1000. In the appendix to the report are tabular statements of the year's mortality within the borough, classified as to the disease, ages, and localities, a weekly register of deaths and of meteorological results, and a monthly summary of deaths from all causes. Dr. Marsden also deals with illegitimate children, of whom 39·2 per cent. died within twelve months of birth; these numbers are higher by 3 per cent. than the rate of mortality of the previous year. Dr. Marsden also refers to certain "insanitary areas" within the borough, and hopes for improvement in their condition.

Liverpool and Ormskirk Jubilee Commemoration Funds.

Of the £30,000 necessary to complete the augmentation of the Liverpool district nursing scheme, alluded to in a former number of THE LANCET, upwards of £7000 are still required, the amounts received to date being £23,970 10s. 8*d*. It is also pleasing to record that Ormskirk is not to be behind-hand in the matter of providing nurses for the benefit of the sick poor of that district in their own homes; it is proposed in commemoration of the Jubilee to make accommodation for five or six nurses in the enlarged Ormskirk Cottage Hospital, who services will be given free of charge to those who, by reason of their poverty, cannot afford to pay for them.

Clerical Victims of Typhus Fever in 1847.

A service was held a fortnight ago in commemoration of the ten Roman Catholic clergymen who died from typhus fever within six months of each other in the discharge of their religious duties in 1847, when that disease broke out among the Irish immigrants who flocked to Liverpool owing to the famine in Ireland. The numbers arriving from Ireland were so large that the lower parts of the city became greatly overcrowded, typhus fever spreading with alarming rapidity and being followed by a high rate of mortality. Monsignor Nugent, the well-known Liverpool philanthropist, preached the sermon and described from personal recollection the sufferings and privations of the poor of Liverpool during that dreadful time. He also dwelt on the heroic conduct and self-sacrifice of the victims whose memory they were then met to honour. A comparison of the Liverpool of the year 1847 with that of to-day affords an instructive object lesson; in the former year were rows of streets with fœtid courts enclosed, to the consequent exclusion of light and fresh air, which are now occupied by healthy artisans' dwellings with salubrious surroundings. The contrast is, indeed, striking, and is a matter for much thankfulness and congratulation. In this connexion it may be interesting to note that typhus fever has been almost stamped out in Liverpool, the disease being now comparatively rare.

New City Magistrates.

Dr. Thomas Clarke and Dr. William Cross have been placed on the Commission of the Peace for the city of Liverpool.

June 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Typhus Fever in Ireland.

IT was thought for the last few years that typhus fever, for a long time a sanitary disgrace to Ireland, had practically disappeared. Some cases have, however, been recently admitted to the Cork-street Fever Hospital from Dublin. In Athlone Union typhus fever has broken out in the Castlesampson division, and five deaths have already been recorded. The prevalence of this fever in Belmullet Union was the subject of a question in the House of Commons on June 28th.

The Jubilee Nursing Scheme in Ireland.

The movement to supply nurses to take charge of the sick poor in their own homes is certain to prove a success. Since the influential meeting held in Dublin last month a number of subscriptions have been received, including £100 from the Roman Catholic Archbishop and £500 from Sir John Arnott.

Mercer's Hospital, Dublin.

As was mentioned many weeks ago the candidates for the vacancies on the staff of this hospital were obliged to enter their names before June 18th. Some twenty candidates have applied, including one well-known medical man—viz., the present master of the Coombe Hospital. Of the members of the staff recently dismissed by the board Dr. M. Ward is the only one to be found among the candidates. Dr. T. Mason will probably be given a consultant position in connexion with the hospital. Mr. O'Grady and Mr. Auchinleck have not applied, and intend to contest at law the power of the board of governors to dismiss their medical staff. The election will take place on July 6th, when it is proposed to elect three physicians and four surgeons.

Irish University Education.

The Irish Roman Catholic Bishops have just issued an important statement on this question. They say: 1. With regard to the constitution of the governing body of a Catholic University that if in other respects it is properly constituted they do not ask for a preponderance, or even an equality, in the number of ecclesiastics upon it, but are prepared to accept a majority of laymen. 2. As to theological teaching, they accept Mr. Morley's suggestion that a theological faculty should not be excluded from the Catholic University provided that the chairs of the faculty are not endowed out of public funds. They are prepared to agree that the moneys voted by Parliament shall be applied exclusively to the teaching of secular knowledge. 3. As to the appointment and removal of professors they think that all reasonable protection for the position of the professor may be met by submitting questions concerning him to the decision of a strong and well-chosen board of visitors, in whose independence and judicial character all parties would have confidence. 4. As to the application of the University of Dublin Tests Act of 1873 they say that, with some modification in the Act in the sense of the English Acts of 1871 and the Oxford and Cambridge Acts of 1877, they have no objection to the opening up of the degrees, honours, and emoluments of the University to all comers. They ask not for a college, but for the foundation of a university.

June 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Method of Treating Aneurysms.

M. LANCEREAUX recently showed at the Academy of Medicine a patient the subject of an enormous dissecting aneurysm of the aorta, which he had treated successfully by a new method introduced by M. Dastre. This method consists in the injection into the veins of a sterilised solution of gelatin, of a strength of 1 per cent. The doses vary in quantity and are continued for some days. Cure is brought about by the formation of a clot. This procedure is absolutely harmless, and would appear to be of great service in these cases of deep-lying aneurysms which are not amenable to surgical treatment.

Deaths under Chloroform.

The daily press is making a great to-do about two cases of death which have recently occurred in the hospitals during the administration of chloroform. The first fatality occurred in an infant, a year old, at the Trousseau Hospital, where the child had been anæsthetised for the purpose of a congenital club foot being operated upon. Heart failure set in and the child died despite all the efforts made to restore him, including a tracheotomy. The second case was that of a man, aged thirty years, who was anæsthetised at the Tenon Hospital for the purpose of having a badly set fracture of the leg rectified. The police officials have commenced an inquiry as to the responsibility of the medical men in these two cases.

An Explosion at the Sorbonne.

A rather grave accident happened on the evening of June 28th during one of a course of lectures given by M. de Lacaze-Duthiers, Professor of Zoology, Comparative Anatomy, and Physiology at the Paris Faculty of Science. Just as M. Lanceplaine, who is nephew and prosector to the professor, was arranging the lantern so as to throw some micro-photographs upon the screen a violent explosion occurred and the fragments of the lamp wounded M. Lanceplaine in the face. A splinter of glass from the manometer also wounded another demonstrator, M. Brumpt, in the leg. Care had been taken not to use the vapour of ether in the lamp, and probably the explosion was due to the defective condition of the manometer. It is only by a happy accident that none of the students present were hurt, for the débris was scattered as far as the topmost rows of seats in the theatre. M. Brumpt is going on as well as possible, but M. Lanceplaine is seriously wounded in the right eye, and the medical men in attendance say it will be some days before they can definitely pronounce as to the result.

Death of M. Schützenberger.

At the last meeting of the Academy of Sciences signs of mourning were apparent owing to the death of M. Schützenberger, the celebrated biological chemist, Professor at the College of France, member of the Institute and member of the Academy of Medicine. The deceased professor, who was born at Strasburg, commenced his career by being demonstrator of chemistry at the Conservatoire of Arts and Crafts. He was afterwards professor at the high school at Mulhouse, joint director of the laboratory at the Faculty of Sciences at Paris, and head of the chemical department at the College of France. M. Schützenberger has left behind him a number of important works bearing on the most diverse questions of organic chemistry. His admirable studies in fermentation are worthy to be the work of Pasteur himself. M. Berthelot, the permanent secretary of the Academy, reported its loss to the Academy in a speech recalling the services rendered to science by the deceased, who had been successively demonstrator to Dumas and Balard and who never ceased throughout his whole career to take an interest in the work of younger men.

The Monument to Duchenne of Boulogne.

On Sunday, June 27th, a monument was unveiled in the square of the General Infirmary of the Salpêtrière to the memory of the celebrated Duchenne, who was born at Boulogne in the year 1806, and is universally known by the title of Duchenne of Boulogne. M. Barthou, the Minister of the Interior, presided at the ceremony, and Professor Joffroy, physician to the Asylum of St. Anne and president of the memorial committee, pronounced an eulogium on Duchenne. He recalled the two great names of Trousseau and Charcot: of Trousseau, who made generally known the work of Duchenne with regard to locomotor ataxy, and of Charcot, who was, he said, the great worker in the science of modern neuro-pathology and one who had rendered the greatest possible service to the study of affections of the nervous system. On the pedestal of the monument is the following simple inscription: "1806–1875. To Duchenne of Boulogne. Localised electrisation; Physiology of movement; Neuro-pathology." Professor Raymond, physician to the Salpetriere, charged himself in his official capacity with the duty of demonstrating in their midst the innumerable labours of Duchenne. Dr. Lerboullet, of the Academy of Medicine, read a paper by Professor Mathias-Duval upon the works of Duchenne, and after an address by Dr. Motet, of the Academy of Medicine, who spoke in the name of the Medical Society of Paris, M. Barthou concluded the series of speeches. In the most brilliant fashion the Minister of the Interior tendered his respectful homage "to the marvellous unity and modesty of the great *savant* to whom they that day, perhaps somewhat tardily, were giving his well-deserved tribute of glory." A point to which the Minister did not refer at this official ceremony, at which the faculty and a host of medical office-holders were present, was that Duchenne never at any time was either a professor or a hospital physician. He worked all alone, going round the wards every morning examining and questioning the sick himself, and was looked upon as a madman by all the officials. Only by the worth of his works, and that at a long time after his death, has he attained his right position, for during his life he met with nothing but scorn from the official scientific world.

Congrès National d'Assistance at Rouen.

This congress has just finished its labours. M. Budin read a remarkable report upon infant feeding in crèches. According to him the chief cause of infantile mortality is diarrhœa brought on by bottle feeding such as has been in use during recent years. If cow's milk is sterilised this diarrhœa disappears. The milk should be given pure; it is useless and even dangerous to dilute it. Dilution increases the amount of fluid taken and the amount of urine passed by the infant, but stops growth. What is important is to avoid over-feeding. The amount of milk given with each bottle should be carefully limited and only increased very slowly, and in this way all digestive troubles will be avoided. Since the infants' department was instituted by M. Budin in June, 1892, at the Charity Hospital results have been obtained which exceeded his hopes. During these five years, even during the hottest weather, not one child has died from diarrhœa so long as they have been exclusively milk-fed, either on breast milk, or that of the cow sterilised, or a mixture of the two. The proceedings at the last sitting of the congress, presided over by M. Peyron, the head of the Assistance Publique, were most interesting. The first speaker took for the basis of his paper the system employed at Rouen, a system showing a remarkable progress. The organisation of the dispensaries had saved the hospitals great expenses, and by the establishment of dispensaries in various quarters of the town advice and treatment were brought to the very doors of the necessitous without their having to lose a day's work. M. Hendle, prefect of Rouen, continuing the debate, asked the congress to pass a resolution that home medical treatment should be developed on the largest possible scale and that dispensaries should be multiplied. Dr. Cerne argued that there should be some provision for rational treatment outside the hospitals, but not, he thought, at the patient's home. Experience showed that it was not necessary for every case, even though home treatment was impossible, to become an in-patient; it was quite sufficient to have an out-patient department of the hospital where treatment could be carried out and necessary operations performed. The surroundings would be better than those of the patient's home, and when he had been treated he could return there.

Dr. Boisleux and Dr. de la Jarrige.

Dr. Boisleux, who has recovered his health, has been transferred to the central prison at Melun. Dr. de la Jarrige remains at the Conciergerie, where he awaits the result of the appeal for a commutation of his sentence.

June 29th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Bacteria in Yellow Fever.

DR. HAVELBURG, a German medical man residing at Rio de Janeiro, in Brazil, and well known by his researches on leprosy, has recently published in the *Berliner Klinische Wochenschrift* a communication on bacteria in yellow fever. Having found in necropsies of yellow fever patients great masses of a special micro-organism in the contents of the stomach, he endeavoured to isolate it in order to ascertain whether it was pathogenic or not. He found that from 1 to 2 c.c. of the contents of the stomach injected into the skin of guinea-pigs caused the death of the animals, and great masses of the above bacilli were discovered in the blood, while control experiments in which portions of the gastric contents obtained from patients who had died from other

diseases were injected into guinea-pigs had no fatal result. The alleged yellow fever bacillus is very small, its length being about 1 μ, = $\frac{1}{25000}$ of an inch, and its breadth from 0·3 μ to 0·5 μ. It is straight, and is for the most part isolated, the cohesion of two individuals being rather rare. The outlines of its extremities are especially well marked. It is easily stained by basic aniline colours, but not by Gram's method. It has not yet been ascertained whether it is motile or not. It can be grown on a gelatin plate, forming in twenty-four hours a white spot which in from twenty-four to forty-eight hours becomes larger and assumes the form of a pin's head. The gelatin is not liquefied. In a test tube the bacillus penetrates into the gelatin, giving the appearance of a white thread, and forms a thick white coating on the surface. On agar round white discs are developed, which may either remain isolated or may join together. Koch's bouillon is rendered opalescent by the bacillus in twenty-four hours, with formation of a grey, cloudy sediment. Broth containing sugar undergoes fermentation. In agar mixed with sugar a gas is produced which causes fissures in the agar. The bacillus coagulates milk within twelve hours; on potatoes its growth is rather slow; on blood serum it grows without any characteristic feature, producing opalescence and a sediment; on coagulated serum a pale grey film is formed.

Further Observations on the X Rays.

Professor Roentgen has again made a communication to the Royal Academy of Sciences on his great discovery. He states that while the x rays are passing through the air they traverse it in every direction. When a plate impervious to the rays is placed between a fluorescent screen and a source of the rays, so that the screen is overshadowed by the plate, the platinocyanide of barium nevertheless becomes luminous, and this luminosity is visible even when the screen lies directly upon the plate, so that one might imagine that some rays had traversed the plate; but if the screen placed on the plate is covered by a thick piece of glass the fluorescence becomes weaker and disappears completely when the glass is replaced by a cylinder of lead 0·1 cm (= $\frac{1}{25}$ of an inch) in thickness surrounding the fluorescent screen. Professor Roentgen's explanation of this phenomenon is that x rays emanate from the irradiated air. He considers that if our eyes were as sensible to the x rays as to ordinary light the appearance would be as if a candle were burning in a room filled with tobacco smoke. Professor Roentgen has, moreover, invented a new apparatus for measuring the intensity of the x rays. He has succeeded in ascertaining by means of this apparatus that the intensity of the rays is influenced: (1) by the course of the primary current; (2) by the interposition of a Tesla transformer; (3) by the rarefaction of the air in the tube; and (4) by some other agencies not yet known. He concludes (1) that the rays issuing from a discharging apparatus consist of a mixture of rays of different absorbability and intensity; (2) that the combination principally depends on the course of the discharging current; (3) that the absorption of the rays varies according to the absorbing medium; and (4) that as the x rays are produced by the kathode rays, and have similar fluorescent, photographic, and electrical qualities, it is very probable that they are both phenomena of the same nature.

The late Pastor Kneipp.

Pastor Kneipp, the founder of the therapeutical system called the Kneipp cure, died last week at Wörishofen, in Bavaria. He must not be confounded with the ordinary quacks—unfortunately so numerous in this country—firstly, because he took no fees for his attendance, but was recompensed only by donations given by his patients to charities under his patronage; and, secondly, because many persons really derived some benefit from his advice. His injunctions of plain diet, cold bathing, walking barefooted on wet grass, and early going to bed and early rising were undoubtedly useful to patients with nervous troubles brought on by an injudicious way of life; but as he paid little attention to diagnosis his treatment often did harm to patients with organic diseases, whom he caused to live like the robust peasants of the Bavarian mountains. Nevertheless, the number of people coming from every part of the world increased from year to year, so that the little village of Wörishofen in course of time was changed into a modern health resort, provided with large and comfortable hotels. With the money he received Pastor Kneipp founded asylums, infirmaries, and other benevolent institutions, which, however, according to an inquiry conducted by the Munich Medical Society, did not by any means fulfil the requirements of modern hygiene. He never left his village except when he was once summoned to attend the Pope and on the very rare occasions when he visited some of the cities of Germany for the purpose of addressing public meetings and propagating his views. His theoretical knowledge of medicine being far beneath that of a first year's medical student, the speeches which he delivered at these meetings were a source of amusement to the medical men who happened to be present; but, strange to say, many sanatoria have, nevertheless, been formed throughout Germany by medical men and others where his treatment is fully carried out. His personal character was recognised as blameless even by his adversaries. Although raised to the high rank of a prelate of the Church of Rome, he continued to live as an ordinary country clergyman, and died without having made any personal pecuniary profit out of the great popularity he enjoyed.

June 28th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Bacillus Icteroides.

THE LANCET has already told its readers the circumstances under which Dr. Giuseppe Sanarelli, sometime *privat-docent* at the University of Siena, now Professor of Hygiene in the Medical School of Montevideo, set himself to discover the bacillus of yellow fever;[1] how he conducted his observations, clinical and bacteriological, at the Lazzeretto of the Island of Flores and at the hospital of S. Sebastiano at Rio Janeiro; and how, after having himself contracted the fever and fortunately recovered, he continued his researches until, in the later months of last year, he satisfied himself that he had found the bacillus, and embodied his conclusions and the investigations that led up to them in a monograph which he deposited with the Accademia Medica di Roma. Thereafter, having by fresh studies checked his previous ones and confirmed his conclusions, he thought fit to give the result to the profession and the world. This he did lately before a scientific audience at Montevideo, and the substance of his lecture, first announced in the lay press by telegraph, I can now supplement by minuter details. It was at the Lazzeretto on the Island of Flores that he first came upon the "microbe of yellow fever." At the outset he had difficulty in distinguishing among a varying number of microbes the unvarying one of which he was in quest; but at last he found it—never, indeed, unaccompanied by others, but always preserving its characteristic features, while its occasional companions were protean. Contrary to expectation, it was not in the alimentary canal that he came upon it. Never, indeed, has he detected it there; but in the circulation and in the tissues he found it invariably, and so was able to correct the current belief that the poison of yellow fever resides in the intestinal tract, showing, on the contrary, that it is formed in the *vie intime* of the tissues and in the circulation itself. Morphologically, the microbe, to which he has given the name of "Bacillus Icteroides" presents at first sight little or nothing characteristic. Closer investigation identifies it as a very small "baston-cino" (rod) with rounded extremities, generally combined in pairs in the cultures and in little groups in the tissues; in length from two to four thousandths of a millimetre, and for the most part twice or thrice as long as it is broad. It is pathogenic for the majority of the domestic animals—a conclusion arrived at by Professor Sanarelli after experiments made on 2000 of these. Few microbes, indeed, have a wider diffusion, every mammal on which he experimented having shown itself more or less sensitive to its pathogenic action, while the feathered tribe, on the other hand, were quite irresponsive. White rats it kills in five days, the infection gaining a foothold through every channel, including that of respiration. Once admitted into the organism the microbes collect in greatest force in the spleen, where they remain during the whole evolution of the malady without noteworthy multiplication. After from six to seven days they all at once pass into the circulation, enter on a period of proliferation, and kill by septicæmia. The rabbit is highly sensitive to this pathogenic action, dying in from four to five days if the poison has entered by the subcutaneous tissue, and in

[1] THE LANCET, Jan. 9th and April 3rd, 1897.

two days if it has been injected into the blood. In the dog are obtained results showing the fever to be "an infective malady due to a micro-organism well defined and susceptible of being cultivated by means of the ordinary artificial nutrients." The bacillus, moreover, may be isolated, not only from the corpse, but even during the life of the patient. Once isolated, its bacteriological diagnosis can be completed in twenty-four hours, possessing as it does characters so distinct as to make it readily recognisable among all the microbes hitherto brought to light. The scanty number in which it is found in the organism and the violence of the symptoms point to its action as that of a very energetic poison. The dog, as already stated, illustrates this action most significantly—scarcely less so the goat, the ass, and the horse; while the cat is curiously refractory. The fever which he claims to have reproduced in man has not a few points in common with typhoid fever, and he emphasises the fact that the diffusion of the virus may be effected through the air as well as by water, contagion being possible through the respiratory system. The bacillus favours the entrance into the organism of septic microbes while its own action on the liver is peculiarly energetic, inducing rapid atheromatous degeneration with other anatomical lesions, to which is due, in some measure, the icterus characteristic of the disease. The liver loses all functional activity. Performing a conservative *rôle* against the poisons and microbes which would otherwise attack the organism from the intestines, that *rôle* fails when these microbes overcome its resisting power. They thus conquer and eliminate from the organism the bacillus icteroides, and in this way Dr. Sanarelli explains those cases in which the bacillus is no longer found on post-mortem examination, or, if found at all, found only in a medley of other species of microbes.

The bacillus acts on the kidney by inducing inflammation of peculiar intensity. This is followed by lesions evinced by the albuminuria characteristic of the last period of the yellow fever; then anuria supervenes, the result of a "true and idiopathic uræmia." Thus it happens that patients when they do not directly succumb to the poison and the lesions caused by the "bacillus icteroides" may die by the secondary infection or by uræmia.

The *modus operandi* of the bacillus having thus been demonstrated Dr. Sanarelli next investigates its mode of entering the organism. As already stated, he denies that its "sede elettiva" (elective seat) is the alimentary canal. He is even inclined to doubt (what elsewhere he provisionally granted) that it may find admission through the water. Atmospheric transmission is the channel he favours. While denying that the alimentary canal is the "elective seat" of the malady, he is far from ignoring the possibility of its being a mode of entrance for the bacillus. "The catarrhal processes of the liver," he maintains, "to which new-comers in tropical regions are subject, and the apparently trifling disturbance of the digestive tract may in this case facilitate the passage of the bacillus into the organism. At this point he enlarges on another "fenomeno biologico," which illustrates the action of the bacillus and the genesis of yellow fever on board-ship. Badly-aired vessels are impregnated with a "fetida umidità" which, with heat and the want of ventilation, forms the "coefficient of epidemics developed at sea." This atmosphere, on experiment, proved particularly favourable to the energising effect of the bacillus icteroides. In certain cultures, continues Dr. Sanarelli, when this micro-organism, sown for some time, seemed not to have "caught on," the "muffa" (or air mildew) sufficed to develop the "colonie caratteristiche" of the bacillus of yellow fever, and it is probable that on board-ship the preservation and "pullulazione" (germination) of the bacillus are due less to moist heat considered as a physical agent than to the generation of "muffe" favoured by the condition of temperature and humidity prevalent in ships at sea. On the other hand (Dr. Sanarelli proceeds), the notable resistance the bacillus icteroides offers to the principal factor of natural disinfection, desiccation, to wit, and the great longevity it achieves during voyages, sufficiently explain the ready acclimatisation of yellow fever and its stubborn persistence on seaboards which have been visited by it.

On the prophylactic and therapeutic aspects of yellow fever Dr. Sanarelli promises special work. In the latter field he has, I believe, a serum in contemplation from which he anticipates results not less satisfactory than those yielded in diphtheria. Meanwhile, we may echo the congratulations voiced by his compatriot, Dr. Alberto Guidi (whose notes from Dr. Sanarelli's monograph I have freely made use of), and record our admiration for the thoroughness, the patience, and the courage with which the young Sienese physician has "broken ground" in a difficult and dangerous field.

June 26th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Pilgrims and Quarantine.

THE Quarantine Board at Alexandria has had plenty to occupy it during this month. The discovery of typhus fever among several flocks of recently imported sheep necessitated the destruction of many hundreds in the quarantine parks. If it is true that typhus fever or rinderpest can be introduced into Egypt as easily by sheep as by cattle it is a pity that stringent measures are not adopted to prevent the importation of all sheep from infected ports. In 1883 regulations of this kind were made in Egypt for cattle, and it is noteworthy that bovine typhus fever has never appeared in this country since that date, the last epidemic having been in 1883. But veterinary diseases are as nothing compared to human cholera and plague. The Board, after several meetings and much anxious deliberation, decided not to interfere with this year's pilgrimage in spite of the presence of cholera bacilli at El Tor. This decision was apparently based on the idea that when clinical symptoms do not coincide with the bacteriological diagnosis the latter is to be entirely disregarded. This is a dangerous precedent and somewhat subversive of the modern system of allowing bacteriologists to have a casting vote in cases of doubt. Imagine a man with a cough, but all other symptoms and signs of doubtful obscurity. If tubercle bacilli are found in his sputa the case would surely be treated for the time being as one of tubercle. It does not seem irrational to expect that a man with diarrhœa and cholera bacilli in his dejecta should be considered—temporarily at least—as suffering from cholera. But the Board decided otherwise, and the Bosnian and Herzegovinian pilgrims in question passed on to Turkey unmolested. The Egyptian Government, in spite of the absence of suspicious cases among Egyptian pilgrims, noted the names and addresses of all returning pilgrims, and had them visited for five days by the medical man of their own district. Hardly had the cholera scare died away than some cases of plague were reported at Jeddah, and this time the Board promptly settled that the pilgrimage must be declared "unclean." It is unknown how the plague reached Jeddah, but one of the obvious possibilities is that it was brought there from Assir, the plateau between Hedjaz and the Yemen, where plague is said to be always endemic. The existence of this district is an additional reason for starting some bacteriological work in Jeddah or Mecca. A Mussulman might be sent there this autumn to begin preliminary investigations. In the meantime Egypt is free from cholera and plague and in many ways prepared to receive these unwelcome visitors if necessary.

Infectious Diseases.

During the last six weeks three specific fevers have been reported from the provinces. Small-pox has broken out in most of the Lower Egypt provinces and half those of Upper Egypt; 795 cases have been reported and 183 deaths. Typhus fever, including probably a few cases of relapsing fever, has occurred in ten places, causing 35 deaths out of a total of 195 cases. Measles has been present in five provinces, accounting for the high death-rate of 122 out of 178 cases. It must be remembered that the native doctors' diagnosis is often made after death, and should always be received with suspicion.

Cairo, June 20th, 1896.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Deaths of Dr. J. Lewis Smith and Dr. Wm. Lusk.

DURING the last week the medical profession of this city and country has lost by death two of its most prominent members. Dr. J. Lewis Smith died on June 9th at the

ripe age of seventy years. His health had been impaired for several years, but he still continued the active duties of his profession until within a day or two of his death. Dr. Smith adopted the diseases of children as a specialty at the commencement of his professional career in 1853, and was the pioneer in this department of medicine in the United States. His first contribution to the literature of this subject appeared in 1854, and from that date to his death he was a prolific contributor to the current medical periodicals, the total number of his papers exceeding one hundred and fifty in number. His work on "The Diseases of Children" appeared in 1869 and passed through eight editions, the last of which was recently issued under his personal revision. For a quarter of a century this work has maintained its position as the accepted text-book of the schools and the favourite authority of the profession. Dr. Smith was for twenty years Clinical Professor of Diseases of Children in Bellevue Medical College. Dr. Lusk died suddenly on June 13th from an apoplectic attack at the age of sixty years. He was dean of the Bellevue Medical College and Professor of Midwifery in that institution. His reputation in the department of obstetrics rests on his treatise on midwifery, which took the highest rank on the issue of the first edition. It has been translated into several languages.

Medical Schools fail to Consolidate.

The attempt to consolidate the University Medical College and the Bellevue Medical College has not succeeded. The trouble seems to have arisen when the scheme reached the point of making up a faculty out of the existing faculties. The friends of the schools are greatly disappointed at the result, for they anticipated the creation of the best equipped medical school in the United States.

Food Adulteration in the United States.

According to Dr. Fremkel the extent to which food adulteration is carried in the United States is a matter of doubt. The estimates of competent authorities on the subject vary between from 2 to 15 per cent. There is no question that the first figure is too low. The last is given by the special agent of the Department of Agriculture, who has examined the subject very exhaustively. Good judges estimate the value of the food supply of the United States at a minimum of $4,500,000,000 annually. If we take the very conservative estimate of 2 per cent. the loss to the consumer by adulteration amounts to $90,000,000 per year. Dr. McNeal, of Ohio, estimates the annual loss to the people of the United States at one and one-third billion dollars; and to the state of Ohio as the result of three years' investigation, a loss of $78,000,000 annually, or $232,000 per day.

The Treatment in a Case Decided to be "Hearsay Evidence."

In a recent case where it was desired to prove that the plaintiff suffered a severe injury to the spine the attempt was made to prove that fact, not by the testimony of the physician who had attended her, but from the treatment that she had received. Such proof, the appellate division of the Supreme Court of New York think, was in the nature of "hearsay." The treatment of the plaintiff for a particular disease, it maintains, was no more than a declaration of the physician that she was suffering from such a disease; and as the declaration would not be competent the court holds that the proof of the treatment was not competent.

The Anti-vivisection Bill in the United States Senate.

Senator Gallinger has reported the Bill to regulate vivisection in the district of Columbia. He accompanies the Bill with a very full report which discusses the subject for and against the Bill from the evidence presented to the committee. He appends a most impressive list of names of some of the most influential people in the country who favour and urge the passage of the Bill. It is very plain that the efforts of the vivisectionists to defeat the Bill have attracted unusual attention to this measure, thus arousing a large opposition from very prominent persons who evidently do not clearly understand the situation, but whose expressed wish and great numbers have influenced the Senate committee. The Bill provides—(1) for the use of anæsthetics in all painful experiments on living vertebrate animals, the so-called inoculation experiments, test of drugs and medicines and cases of recovery from surgical procedure being expressly exempted from this requirement; (2) for the licensing of all experimenters by the district commissioners, except those who are duly authorised officers of the Government of the United States or of that of the district of Columbia; (3) for the prohibition of vivisection in the public schools and in exhibitions for the general public; and (4) for the inspection of all places of experiment by inspectors to be appointed by the President of the United States.

Prosecution of Quacks.

It appears that since April, 1895, when the law providing for the criminal prosecution of quacks was restored, the New York County Medical Society has caused the arrest of eighty-three persons for practising illegally, and it has obtained convictions in fifty-one cases. These persons have paid $3690 in fines, and a number of them have been sent to gaol besides. The legal department of the society has a large number of cases pending. This fact alone is deterrent of much illegal practice, and not only tends to prevent the pretenders from trying to establish themselves in New York City, but also drives some of them to other localities where the duty of prosecuting offenders is not undertaken by the profession.

The Hospital Fund of New York.

The Hospital Saturday and Sunday Association, the receipts of which for this year amounted to $61,500, have distributed of this sum $50,000 among 35 institutions. The sum of $8200 was designated for special purposes and $3300 was reserved for expenses. The collections were $2500 more than last year, and the number of "free hospital days" was 690,841.

June 16th.

MONTREAL.

(FROM OUR OWN CORRESPONDENT.)

Victorian Order of Nurses.

EVERYTHING just now is tinctured with Jubilee, from politics to postage stamps. The chief scheme for a Canadian Colonial commemoration is that of the Victorian Order of Nurses. This ambitious but somewhat visionary project is greatly exercising the colonial mind, both lay and medical. The main feature of the project is to dot the cities in the Dominion with "training centres," and the sparsely populated parts with "residential centres," in which a supply of trained nurses would be housed, to be in readiness to go to sick calls where skilled nursing is not now available; the remuneration of the nurses to be from an endowment, the friends of the sick to pay what they are able. The project is receiving the backing of our highest social circles, and it will need it all to make it go. From a pamphlet dealing with the duty and charm of nursing the sick, issued under the ægis of Lord and Lady Aberdeen, I take the following: "Some of the chief objects of the order will be: To provide skilled nurses in sparsely settled and outlying country districts; to provide skilled nurses to attend the sick poor in their own homes in cities; to provide skilled nurses to attend cases in cities at fixed charges for persons of small incomes, the charges being paid to the funds of the order; to provide small lying-in rooms and wards in cottage hospitals or homes; to prepare trained nurses thoroughly qualified to carry out these objects. It would not be a prudent thing to have the order started unless provision be made for perpetuating it. It would take an endowment of about £200,000 to insure revenue to make this benefaction a lasting one for all the needy districts of Canada. Shall we confess ourselves helpless in the presence of this urgent need and dismiss the cry for help with the remark, 'But a million of dollars is a great sum to raise'? Certainly a million of dollars is a great sum to raise, but if the people of Canada can be fully informed and thereby awakened to the greatness and goodness of this movement, a million dollars will be forthcoming for the commemoration of the Diamond Jubilee of Her Majesty by such means as will cause gratitude to grow continually in the hearts of the people of Canada towards the memory of Victoria the Good and her representatives and subjects in Canada who promoted the order." The following paragraph from the pamphlet has given offence to some sensitive ones in the medical profession: "In the sparsely settled parts of Canada what is needed now more than ever before is the presence in scores of localities of skilled physicians who have forgotten the meaning of personal ease—men who believe that the nobility of living is to help others

and not to roll up riches. These country sections call for competent medical men; and if the medical men are supplemented by trained nurses they could each cover more ground. The trained nurses would also carry valuable knowledge of a most practical sort into the homes of the people." At first there was a chorus of praise of the scheme from the leaders of the medical profession, but now murmurs of dissatisfaction are heard. Two provincial medical bodies have given public expression of disapproval of the scheme. One association in annual session felt moved to express its "most unqualified disapproval ..... on account of its dangers to the public."

A Millionaire's Will.

The body of the late Mr. J. H. R. Molson, the millionaire banker and brewer, who died last week, was taken to Boston, U.S., for cremation. Mr. Molson was one of the members of a family whose name is indissolubly connected with the McGill University by reason of frequent and vast benefactions. Among the many of Mr. J. H. R. Molson's contributions were the land on which is erected the Redpath Library and £15,000 for the extended buildings of the medical faculty. Mr. Molson's will contains a bequest to the McGill University of £20,000 as an endowment for general purposes; £2000 for the Montreal General Hospital: £2000 for a crematorium to be erected in Mount Royal Cemetery, the bulk of the vast fortune going to relatives, there being no direct heirs.

Montreal Meeting of the British Medical Association.

In my last communication reference was made to the work of the Museum Committee of the British Medical Association, and among other things I stated that some disappointment had been felt on account of the comparatively few applications for space by exhibitors up to that time. It appears now that the tables have been much sought after, and in consequence the exhibitors will be more numerous than was originally anticipated by the committee. It is further expected that the successful work of this committee will result in augmenting the funds of the executive by some £300 or £400. Altogether the Montreal meeting promises to be in every respect a success.

Provoked Gangrene.

Two interesting cases were shown recently at the Medico-Chirurgical Society in which this diagnosis was reached. Both were young women; in one case there was on the lower third of the calf a round sore with a black crust the size of a silver dollar. The patient stated that she had had typhoid fever, and also that she had had a similar sore once before. The sore was a long time in healing, but ultimately the patient went out well. The hospital physicians, though not unanimous, were mostly of the opinion that the case was as stated. The patient had acted rather queerly, and on one occasion succeeded in setting fire to her clothing. The agent used was thought to be carbolic acid, and the reason of the slowness in healing was the constant irritation of the part by the patient. The other case was that of a hysterical young girl who had destroyed the little finger of the left hand, also by carbolic acid.

An Easy Diagnosis.

The liberty of the individual is well safeguarded in the province of Quebec, so that when one wants to get a patient in an asylum much formality is required. Lengthy papers have to be signed by two practising physicians who have made independent visits to the patient. One of our asylum officers recently stated in a discussion that he was once requested to accept a man as an inmate on a document in which the attending physician gave as the only basis of his diagnosis of dangerous lunacy the following: "He tells lies."

A Medical Association's Jubilee.

The meeting of the American Medical Association of Philadelphia held from June 1st to June 5th was a notable one, being its fiftieth. The attendance was very large. The oratorical and scientific parts were excellent, and the hospitality was lavish. The serum typhoid test was discussed at length at one of its sessions. Wyatt Johnston, of Montreal, supported his dried blood method by enlarged experience. There is a tendency now to consider the agglutination as a symptom rather than a test of typhoid fever. The normal blood of negroes frequently agglutinates.

June 12th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Hospital for Phthisical Patients, New South Wales.

LADY HAMPDEN has proposed that the record reign of Queen Victoria should be commemorated in New South Wales by the establishment of homes or hospitals for phthisical patients, and at a meeting held at Government House it was decided to carry this proposal into effect. As has been pointed out in previous communications, the need for such institutions is beyond question, and their establishment now would be a very excellent permanent memorial of the Queen's reign, and one in accord with her own wishes.

Inadequacy of Quarantine Arrangements at Port Phillip.

The resources of the quarantine station at Port Phillip Heads have been somewhat taxed recently, as two mail steamers, the *Nineveh* and the *Himalayeh*, have come into port with small-pox on board and the Melbourne passengers have been quarantined. As usual, they have grumbled, said the case alleged to be small-pox was not small-pox, and that the arrangements for their reception at the station were inadequate. Dr. Gresswell, the chairman of the Board of Health, admits that the equipment of the quarantine station is not all that is desirable, but that the arrangements must be always of a more or less temporary character, and all the convenience of a first-class hotel cannot be expected. The mail steamer *Polynesian* arrived at Adelaide with two alleged cases of small-pox on board, and was quarantined there pending investigation. The cases, however, proved to be chicken-pox.

Outbreak of Dengue Fever.

An epidemic of dengue fever has occurred at Normanton, Queensland, to such an extent that nearly every inhabitant has been affected. The warders in the gaol succumbed to the disease, and the prisoners have been released and the gaol turned into a temporary hospital. Those who had been long resident in the district enjoyed immunity for a time, but at last were affected like the others.

The Diet of Australians.

Mr. P. Muskett, in the first of a series of lectures at the School of Arts, Sydney, on the "Alimentary Properties of Vegetables," said that an Australian annually would eat as much meat as two Englishmen, three Canadians, four Germans, and ten Italians, and that the health of Australians was suffering in consequence. Indigestion was the Australian national malady. He advocated a much more extended use of vegetables. Excessive tea-drinking was another cause of much ill-health among Australians.

New South Wales Medical Union.

The fourth annual meeting of the New South Wales Medical Union showed that this society was in a flourishing and vigorous condition. Its members' roll had steadily increased and it had a good balance in the bank. In several instances during the year members had been threatened with legal proceedings, but on the council intimating its intention to defend the cases the proceedings were dropped. The council had taken legal advice as to whether any form of indemnity given to a medical practitioner was binding in law, and the opinion obtained was that all such agreements are void in law. The following resolution was carried unanimously at the meeting: "Where any society, syndicate, or organisation exists having amongst its objects the affording of medical aid to its members or to the public, or both to its members and the public, and the council shall by resolution have decided that such society, syndicate, or organisation is prejudicial to the interests of the medical profession, no person pecuniarily interested in, or otherwise connected with, such society shall be eligible for membership of the union, and if such a person be a member he may be expelled. No person who practises as a homœopath shall be eligible as a member."

St. John Ambulance Association.

The annual demonstration of the Victoria Centre of the St. John Ambulance Association was held recently in the town-hall, Melbourne. The President, Sir William Clarke, Bart., was in the chair, and His Excellency the Governor addressed the meeting. The work of the association had steadily progressed and it had now about 10,000 members, more than half of whom were qualified to render first aid.

Litters were now available in all cases of emergency. The number of pupils for the year was 747, of whom 497 passed the examination.

Death of William Gardner, M.D., C.M. Glasg.

By the death of Dr. William Gardner Australia has lost one of her most notable surgeons. A bold and dexterous operator, he also contributed largely to surgical literature, and was especially identified with the subject of the surgical treatment of hydatid disease. He originated the operation of neurectomy of the posterior divisions of the spinal nerves for spasmodic torticollis. His operation for this affection was very similar to that devised by Mr. W. Keen, but was quite an independent suggestion, and, indeed, really somewhat prior in point of time. Dr. Gardner was also a pioneer in renal surgery in Australia, and was the first to perform Loreta's operation and excision of the larynx in these colonies. In 1892 he was President of the Section of Surgery at the Inter-colonial Medical Congress of Australasia, and delivered an admirable address, which received especially favourable commendation from the members who heard it. He, in 1894, founded the *Inter-colonial Quarterly Journal of Medicine and Surgery*, which was subsequently amalgamated with the *Australian Medical Journal*. Dr. Gardner made his reputation in Adelaide, where he had a very large practice, and was for many years senior surgeon to the hospital and lecturer on surgery at the university. In 1892 he removed to Melbourne, and in 1895 his health began to fail. In 1896 he took a holiday in Europe, but died at Naples on his return voyage to Australia. Dr. Gardner was a man of intense energy and great decision of character, and was also sympathetic with his patients, who trusted him implicitly. No doubt, like many another man of strenuous temper, he had many controversies and made not a few enemies, but he worked hard with no ambition other than the advancement of his profession, for which he had a consuming enthusiasm.

Operating Theatre at Prince Alfred Hospital, Sydney.

The operating theatre at the Prince Alfred Hospital, Sydney, has been considerably enlarged and altered so as to bring it into conformity with the very latest aseptic ideals. The floor is of Belgian tiles, and the walls have a dado of marble. Sterilised water is laid and the furniture is of glass and iron of the most modern and approved pattern. The lighting and ventilation have received special attention, and also the arrangement of the seats for students, and it is claimed that the theatre is now the most perfect in Australia.

Thyroid Gland Extract as a Galactagogue.

The *Inter-colonial Medical Journal* for April contains a paper by Dr. R. R. Stawell on Thyroid Gland Extract as a Galactagogue. He publishes notes of cases where he administered this substance for the purpose of increasing the metabolism in the mammary gland. On the assumption that thyroid extract increased metabolism generally, and as the secretion of milk is typical of metabolism, it was reasonable to suppose thyroid would act as a galactagogue. Nine cases are given in which it was tried, and Dr. Stawell says: "While very fully alive to the danger of making generalisations based on only a few clinical observations, it seems to me that there is sufficient evidence that thyroid extract is an apparent galactagogue in certain cases."

Epidemic of Infantile Paralysis.

In the *Australasian Medical Gazette* for April Dr. C. A. Altmann describes a series of fourteen cases of acute anterior polio-myelitis which occurred in the district of Port Lincoln, South Australia, during the months of March and April, 1895. The last case before the series was an isolated one in 1887, and no cases have occurred since. The proportion of cases to population amounted to 1 in 108. In two instances two members of the same family were attacked in rapid succession. All the patients but one were over three years of age; eight were males and six females. The season was hot and dry, and excessive exertion seemed to be a predisposing cause in one case. One patient had retention of urine, one had hemiplegia, and one had paralysis of the seventh nerve.

Case of Acromegaly.

At the April meeting of the Medical Society of Victoria Dr. J. W. Barrett exhibited a well-marked and typical case of acromegaly. The patient had optic atrophy, hemianopsia, and proptosis, obvious enlargement of the hands and great toe, and a suggestion of kyphosis. A skiagram of the hands of the patient showed marked enlargement of the middle of the phalanges.

May 12th.

Obituary.

SURGEON-GENERAL HERBERT TAYLOR READE, C.B., V.C.

HERBERT TAYLOR READE, who, in addition to the much coveted distinction of the Victoria Cross, also held the post of Honorary Surgeon to the Queen, died at his residence, Park Gardens, Bath, on Wednesday, June 23rd, 1897. The deceased officer was born in 1828 and qualified as M.R.C.S. Eng., in 1849. The following year he joined Her Majesty's Service as an army surgeon and was appointed to the 61st Regiment. With this regiment he was present at the siege and capture of Delhi from July to September, 1857. The following is the official account of the act for which he received his Victoria Cross:—"During the siege of Delhi on Sept. 14th, 1857, while Surgeon Reade was attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the Bank, and having established themselves in the houses in the street, commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade, drawing his sword and calling upon a few soldiers who were near to follow, succeeded under a very heavy fire in dislodging the rebels from their position. Surgeon Reade's party consisted of about ten in all, of whom two were killed and five or six wounded. Surgeon Reade also accompanied the regiment at the assault of Delhi, and on the morning of Sept. 16th, 1857, was one of the first up at the breach in the Magazine, which was stormed by the 61st Regiment and the Belooch Battalion, upon which occasion he, with a sergeant of the 61st Regiment, spiked one of the enemy's guns." In 1886–1887 Surgeon-General Reade was principal medical officer of the Southern District. At the end of 1887 he retired from active work, and in 1895 was made an honorary surgeon to the Queen.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men have been announced:—Dr. Stocquart, Chief Demonstrator in the Anatomical Department of the University of Brussels.—Dr. Dominik Hofer, for many years Professor of Anatomy in the Munich Veterinary School. He was eighty-nine years of age and qualified as a medical man in 1845.—Dr. Martin Wilckens, who had formerly been in practice as a medical man in Hamburg, but who for many years had occupied the chair of Animal Physiology in Vienna, has shot himself in consequence it is said, of increasing paralysis which was due to calcification of the arteries.—Dr. Giuseppe Fissore, Extraordinary Professor of Medical Pathology in Turin.—Dr. Thomaz de Carvalho, Emeritus Professor of Surgery in Lisbon.—Dr. Cernea, Professor of Internal Pathology in the Jassy School of Medicine.

"QUEEN'S DAY" AT THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—The President of the hospital, the Duke of Westminster, has fixed Saturday, July 10th, for "Queen's Day," and the Duchess of Albany and Duchess of York have promised, if possible, to be present. In the afternoon there will be an inspection of the wards and a musical conversazione, and in the evening a "Dream of Flowers."

THE RAINY SEASON IN INDIA.—The forecast issued by the Indian Meteorological Department relative to the monsoon has prognosticated that the rains would probably commence on the Bombay coast about the second week and on the Bengal coast about the third week of June. The *Times of India* says that the heat at present prevailing in various parts of India is abnormally great, and the rains will be greatly welcomed. Looking to the late famine, arising from the failure of crops, a good monsoon is of the greatest importance to the country. Severe thunderstorms, attended with heavy falls of rain, have occurred at various places in India.

Medical News.

CAMBRIDGE UNIVERSITY.—At the examinations for medical and surgical degrees, Easter term, the following candidates were successful in the subjects indicated:—

FIRST EXAMINATION.

Part I.

Chemistry and Physics.—Birks, King's; Brailey, Downing; Buckle, Conville and Caius; Burroughes, Trinity; Cardew, Clare; F. J. Child, B.A., Christ's; Cooper, Jesus; Crowfoot, Emmanuel; Crowther, St. John's; Cunnington, non-collegiate; Dally, St. John's; Day, Gonville and Caius; Day, Christ's; Dodd and Donnell, Gonville and Caius; Elliott, Emmanuel; W. L. Evans, St. John's; Freshwater, Trinity; Goss, Jesus; C. H. Gregory, Emmanuel; Gubbins, Clare; Guthrie, King's; P. Hardy, Trinity Hall; Harnett, St. John's; Harrison, Clare; Heald, non-collegiate; Hepburn and W. H. Hills, Pembroke; Hocken and Hudson, Clare; Kidd and L dward, Trinity; Leech and Lucas, Clare; H. B. McCaskie, Gonville and Caius; C. G. Martin, Downing; Mathias, Trinity; Nicholson, King's; Panton, Trinity; Pellier, B.A., Clare; Pellow, St. John's; Pennington, B.A., Gonville and Caius; Pipkin, Emmanuel; Pope, Trinity; Rickett, King's; Riddle, Peterhouse; Robbins, Trinity; C. T. Y Robson, M.A., St. John's; Rolfe, Clare; Scott, Sidney-Sussex; Sidgwick, Clare; Simpson, King's; W. H. E. Stewart, Gonville and Caius; Strong, B.A., and H. C. Taylor, Trinity; Thurlow, Gonville and Caius; Tuck, Emmanuel; Wadson, Gonville and Caius; Ward, Clare; Williams, B.A., Pembroke; Wollaston, B.A., King's; Young, Christ's; and Young, Emmanuel.

Part II.

Elementary Biology.—H. Akroyd, Gonville and Caius; Armitage, Emmanuel; Bain, Trinity; Barton, Pembroke; Birks, King's; Brailey, Downing; Breakey, Jesus; Burroughes, Trinity; Cardew, Clare; Clapham and Cohen, Emmanuel; Cooper, Jesus; Cooper, Emmanuel; Courthauld, Trinity; W. R. Creighton, Emmanel; W. L. Cripps, Trinity; Crowther, St. John's; Cunnington, non-collegiate; Davidson, Gonville and Caius; Day, Christ's; Dodd, Gonville and Caius; T. R Elliott, Trinity; Elliott, Emmanuel; W. L. Evans, St. John's; Frere, Pembroke; Gardner, Gonville and Caius; Gardner-Medwin, Trinity; Goss, Jesus; Goulden, non-collegiate; Goyder, St. John's; C. H. Gregory, Emmanuel; Gubbins, Clare; Guinness, Emmanuel; Guthrie, King's; Haldane, Jesus; Hardwich, Trinity; Hardwick-Smith and Harnett, St. John's; Harrisson, Clare; Harry, Jesus; A. G. Harvey, St. John's; Haynes, Downing; Hocken, Clare; Holtzman, Christ's; Iles, Gonville and Caius; E. G. Kellgren and Kidd, Trinity; Kirk, King's; Ledward, Trinity; Leveaux, St. John's; H. B. McCaskie, Gonville and Caius; J. C. Matthews, Downing; Morris, Gonville and Caius; R. C. Mott, Trinity; Murphy, St. John's; Muspratt, Christ's; Nicholson, King's; Norman and Paramore, St. John's; Parry, Gonville and Caius; Pellier, B.A., Clare; Phelps, Trinity; G. L. Planking, Pembroke; Rickett, King's; Robbins, Trinity; C. T. Y. Robson, M.A., St. John's; Rolfe, Clare; Salzmann, Pembroke; Scarborough, St. John's; Scott, Sidney-Sussex; Sidgwick, Clare; Simpson, King's; Snell, Gonville and Caius; Stroug, B.A., and H. C. Taylor, Trinity; Thurlow, Gonville and Caius; Tonge and Tuck, Emmanuel; Ward, Clare; B. B. Watson, Trinity; L. G. A. West, St, John's; Whitaker and L. E. Wigram, Trinity; H. M. Wilson, Trinity Hall; Wiltshire, St. John's; Woolley, King's; and E. A. Wright, H. Selwyn.

SECOND EXAMINATION.

Part I.

Pharmaceutical Chemistry.—J. F. Alexander, Trinity; Beck, Clare, S. Bennett, Downing; Bennion, St. John's; H. C. Brown, Emmanuel; Bulstrode, Trinity; Bryan and Byles, King's; Candler; B.A., Corpus Christi; E. R. Clarke, St. John's; Cole, Trinity; de Havilland, M.A., Peterhouse; W. H. Dickinson, B.A., Trinity; Edwards, Downing; Etherington-Smith, Trinity; H. R. Fisher and W. H. Fisher, Emmanuel; W. S. Fox, Trinity; Heath, Downing; H. T. James, B.A., Trinity; Jeudwine, H. Selwyn; J. H. Kellgren, Trinity; Lambert, St. John's; McBryde, B.A., King's; Mart, St. John's; H. W. Masterman, Christ's; C. M. Murray, Pembroke; S. H. Nathan, Inc., and Noon, Trinity; Payne, Peterhouse; Rischbieth, Rix, Robinson, and E. A. Ross, Trinity; Sapwell, B.A., Corpus Christi; A. V. Sedgwick, Gonville and Caius; Shone, Emmanuel; Spicer, Trinity; Stiebel, Trinity Hall; Stocker, Trinity; Trigg, Christ's; Wales, Sidney-Sussex; Wild, Jesus; and Wilson, H. Selwyn.

Part II.

Human Anatomy and Physiology.—A. P. M. Anderson, B.A., Trinity; Barnicot, B.A., Pembroke; Brenan, B.A., Trinity; Candler, B.A., Corpus Christi; E. R. Clarke, St. John's; Cooke, B.A., Sidney Sussex; Dunne, Queen's; Eve, B.A., Emmanuel; Gillespie, St. John's; Glenn, B.A., Pembroke; Glover, St John's; D. G. Hall, Emmanuel; Heath, Downing; Helm, B.A., Magdalene; Hulbert, B.A., Izard, B.A., C. Killick, B.A., and Knobel, B.A., Trinity; Linnell, B.A., H. Selwyn; Malim, Christ's; H. N. Matthews, St. John's; Mickletbwait, B.A., Trinity; Mullings, B.A., Christ's; Murison, B.A., Trinity; Nixon, B.A., Gonville and Caius; Pearson, B.A., Emmanuel; Philbrick, B.A., and L. Reynolds, B.A., Trinity; Scott, Christ's; Sellon, B.A., and Stiff, B.A., Gonville and Caius; Taylor, Downing; Timmins, B.A., Emmanuel; Topham B.A., Christ's; Walker, B.A., King's; Walker, B.A., Clare; R. F. C. Ward, St. John's; D. P. Watson, B.A., Trinity; West, B.A., Christ's; Whitmore, Gonville and Caius; Wilkinson, B.A., Pembroke; T. Wood, B.A., Gonville and Caius; and H. C. S. Woodward, M.A., Downing.

THIRD EXAMINATION.

Part I.

Allfrey, Trinity; R. H. Bell, Trinity; Coleman, St. John's; A. W. Daniel, Emmanuel; Deller, Trinity; Forbes, Christ's; Greg, Trinity; H. L. Gregory, St. John's; Harrisson, Magdalene; Heilborn, Gonville and Caius; Irving, Gonville and Caius; Jephcott, Gonville and Caius; Lindsay, Sidney-Sussex; W. F. Lloyd, Clare; Lowe, Jesus; Mathias, Christ's; E. A. C. Matthews, Trinity; H. D. O'Sullivan, Emmanuel; Prest, St. John's; Roderick, Emmanuel; Rowland, Downing; B. H. Slater, Trinity; C. White, Christ's; E. A. Wilson, Gonville and Caius; W. R. Wilson, Corpus Christi; and Yeld, Trinity.

Part II.

A. M. Barraclough, Christ's; H. J. Bumsted, St. John's; F. P. Cayley, Trinity; H. G. Cooper, Emmanuel; Delbruck, King's; W. B. Dove, Christ's; W. B. Heywood, Emmanuel; Houseman, Clare; Hughes, Gonville and Caius; L. T. R. Hutchinson, Trinity; W. McDougall, St. John's; Mackenzie, Gonville and Caius; J. C. Muir, Emmanuel; W. Myers, Gonville and Caius; Pendlebury, Pembroke; Porter, Emmanuel; Robinson, Gonville and Caius; Stead, Gonville and Caius; B. R. Turner, Emmanuel; Twigg, Christ's; F. F. Ward, H. Selwyn; and Watson, Peterhouse.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, whose names are arranged in order of seniority as Members in accordance with the provisions of the Charter, having passed the necessary examination and conformed to the by-laws and regulations have been admitted Fellows of the College:—

Howse, Neville Reginald, L.R.C.P. Lond., London Hospital; diploma of Membership dated July 23rd, 1888.

Luard, Hugh Bixby, M.B., B.C Cantab., L.R.C.P. Lond., Surgeon-Captain I.M.S., Cambridge University and St. Thomas's Hospital; Aug. 4th, 1887.

Kelly, Charles Ernest Mackenzie, M.B., B.S. Lond., L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester; July 30th, 1891.

Watkins-Pitchford, Wilfred, M.B. Lond., L.R.C.P. Lond., St. Thomas's Hospital; Nov. 12th, 1891.

Stack, Edward Hugh Edwards, M.B. Cantab., L.R.C.P. Lond., St. Bartholomew's Hospital; Feb. 11th, 1892.

Paterson, Herbert John, M.B., B.C Cantab., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital; Nov. 10th, 1892.

Hulke, Sydney Backhouse, L.R.C.P. Lond., Middlesex Hospital; Feb. 9th, 1893.

Wace, Cyril, L.R.C.P. Lond., King's College Hospital; July 27th, 1893.

Crowley, John Henry, M.B., B.S. Melb., Melbourne University and King's College Hospital; Feb. 8th, 1894.

Duffett, Henry Allcroft, L.R.C.P. Lond., Guy's Hospital; Feb. 8th, 1894.

Fox, George Raymond, L.R.C.P. Lond., St. Bartholomew's Hospital; May 10th, 1894.

Lee, William Edward, M.D., M.B. Lond., L.R.C.P. Lond., St. Bartholomew's Hospital; May 10th, 1894.

Drake, Courtenay Henry, M.B. Lond., L.R.C.P. Lond., St. Bartholomew's Hospital; Nov. 8th, 1894.

Gullan, Archibald Gordon, M.B. Lond., L.R.C.P. Lond., University College and Royal Infirmary, Liverpool; Nov. 8th, 1894.

Handley, William Sampson, M.D., M.S. Lond., L.R.C.P. Lond., Guy's Hospital; Feb. 7th, 1895.

Thomas, Thomas Morrell, M.B., B.S. Lond., L.R.C.P. Lond., Guy's Hospital; Feb. 7th, 1895.

Clark, William Gladstone, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital; May 9th, 1895.

Legg, Thomas Percy, M.B. Lond., L.R.C.P. Lond., St. Bartholomew's Hospital; May 9th, 1895.

Cook, John Howard, M.B., B.S. Lond., L.R.C.P. Lond., University College Hospital; July 29th, 1895.

Going, Robert Marshall, M.B., B.Ch. Univ. Dub., L.R.C.P. Lond., Trinity College, Dublin, and London Hospital; Aug. 4th, 1896.

Twenty-two gentlemen were referred for six months and three for one year.

FOREIGN UNIVERSITY INTELLIGENCE.—*Algeria:* Dr. Brault has been appointed Professor of Tropical Diseases.—*Berlin:* The very important chair of Physiology lately occupied by the illustrious Professor du Bois-Reymond has been offered to Professor W. Th. Engelmann, of Utrecht, and accepted by him. He is a German both by birth and education. He has been, however, professor at Utrecht for the last twenty-four years. His contributions to physiology have been very numerous, especially researches on the action of muscle and nerve.—Dr. Paul Frosch, assistant in the Institute for Infectious Diseases, has been granted the title of Professor; a similar distinction has been conferred on Dr. Gustav Behrend, *privat docent* of Dermatology.—*Budapest:* Dr. A. Irsai and Dr A. Onodi, *privat-docenten* of Laryngology, have been promoted to Extraordinary Professorships.—*Naples:* Dr. Francesco Campione has qualified as *privat docent* in Midwifery.—*Philadelphia (Medico-Chirurgical College):* Dr. Charles E Sajous has been appointed Professor of Laryngology.—*Rome:* Dr. Enrico D'Anna has qualified as *privat docent* in Surgical Pathology.

THE LIFE SAVING SOCIETY.—At the West India Docks, on July 3rd, at 3 P.M., the Life Saving Society will hold an international championship gala in the presence of T.R.H. the Duke and Duchess of York. In addition to the performance of the best amateur swimmers at home, representatives from Australia, New Zealand, America, Belgium, and Sweden have promised to take part in the display. The visitors will be entertained at the Holborn Restaurant at 7 P.M., when the distribution of prizes will take place by the acting President, the Hon. Sydney Holland. Tickets can be obtained at the offices of the Society, 8, Bayley-street, W.C.

PEKING HOSPITAL.—The annual report of the Peking Hospital in connexion with the London Missionary Society, 14, Blomfield-street, E.C., shows that during 1896 there were 26,000 attendances of male out-patients and 5000 of females; 362 visits were paid to patients in their own homes, and 174 men and women have been under more continuous treatment in the wards. The income was 992 Kung-fa taels (about £160) and the expenditure 902 Kung-fa taels (about £146); the average cost of each patient was 320 Peking cash, or about one penny. The operations included two amputations of the leg and one of the arm. The present annual report is the thirty-fifth; the medical officer is Dr. Eliot Curwen. The hospital provides ward accommodation for thirty-eight men and four women.

DIPHTHERIA IN LONDON.—In each of the weeks of the fortnight ended on Saturday last, the registered deaths from diphtheria in London were below the corrected decennial average for the corresponding periods of the years 1887-96. In the three weeks ended with June 12th the deaths from the disease registered in London had been 36, 33, and 39 respectively, but in the week next succeeding they fell to 29, and were 7 below the corrected average, 4 belonging to Limehouse, and 3 to Poplar sanitary areas. All the 29 deaths were of young persons aged under twenty years, 4 being of infants. In the outer ring the deaths from diphtheria were 7, including 3 in the Edmonton Union. In the following week, ended with Saturday last, June 26th, there were only 24 deaths from the malady registered in London, this total being 12 below the corrected average, 4 deaths belonging to St. Pancras, 4 to Camberwell, and 3 to Battersea sanitary areas. Again, all the deaths were of young persons aged under twenty years, none being of infants. The admissions to hospital during the week numbered 119, and 836 patients were still under treatment on Saturday last. In the outer ring the registered deaths from diphtheria last week numbered 8, of which 4 occurred in the West Ham union.

NATIONAL SOCIETY FOR EMPLOYMENT OF EPILEPTICS.—The annual meeting of Governors was held on June 30th at the offices, 12, Buckingham-street, Strand, the chair being taken by Mr. C. Montefiore Micholls. In the report presented by the Honorary Medical Staff a very satisfactory account is given of the improvement of the patients at the Society's "Colony" at Chalfont, both as regards the frequency and severity of their fits, while as regards their general health it is stated that without exception the condition of each "colonist" has materially improved. In the report of the executive committee reference is again made to the deplorable condition of the numerous applicants, who are compelled through lack of room to wait a long period for admission, and of whom one in every ten drops out of the list each year through insanity or death, while at the colony itself since its establishment in 1894 only one death has occurred and only one patient has had to be transferred to an asylum. The report concludes by pointing to future developments of the colony, for which special donations have been given or promised. These include a sanatorium for patients needing special care, another home for male "colonists," two homes for children, and a home for patients able to pay on a higher scale. But while so much help is forthcoming it is available, as the report points out, only for these special purposes; and as regards the general funds the position of the society is stated to be most serious and critical, and the committee make an urgent appeal to the charitable public for assistance, without which they will not be able to accept with safety the increased responsibilities which the before-mentioned developments will bring.

THE RE-ORGANISATION OF THE HEALTH DEPARTMENT IN BOMBAY.—Bombay is learning, says the *Times of India*, the lessons of the plague. An amendment of the Municipal Act is engaging the serious attention of the Government, and meanwhile the Municipal Commissioner has submitted a scheme for the re-organisation of the health department of that city.

PRESENTATIONS TO MEDICAL MEN.—At a meeting of the Federated Ball Committees of Portsmouth, held on June 9th, Mr. John Mulvany, L.R.C.P. Edin., Town Councillor, the chairman of the committee, received a presentation from his colleagues, as a token of their esteem, of a handsome gold medallion, enamelled with the red cross of St. John and the Borough Arms, with an appropriate inscription. The Ball Committees of the town federated for the purpose of organising a public ball in aid of the Mayor's Hospital Fund. The result was so satisfactory that the movement has been made permanent with a view to giving a charity ball every year. — Mr. B. Stewart Cowen, M.B. Glasg., of Charlton, Victoria, Australia, on the occasion of his leaving the district was the recipient from the residents of a handsome present.—Mr. Wm. C. Little, M.D. Ont., L.R.C.S. Edin., of Warracknabeal, Victoria, on his departure for Canada, was presented by the residents with a handsome travelling bag.—Mr. Reginald H. Noott, M.B. Edin., of the State Criminal Lunatic Asylum, Broadmoor, has received the gift of a handsome smoker's cabinet from the members of his psychological class. The male and female attendants who were successful in passing the examination made the presentation.—Mr. Wm. C. Faulkner, M.B. Edin., on resigning the position of resident medical superintendent to the Rockhampton Hospital, Queensland, was presented by the members of the nursing and working staff of that institution with an illuminated address and two cases containing dessert- and fish-knives and forks.—Mr. R. Bevan, L.R.C.P. Lond., D.P.H., was presented on June 11th by the Lydd, Kent, Ambulance Class with a malacca cane walking-stick suitably inscribed.—On June 25th last at the Cardiff railway station the employés of the Great Western Railway who have attended the recent lectures of the St. John Ambulance Association, presented Mr. Arthur Ernest Taylor, M.B., C.M. Edin., &c. with a tastefully worked, gilded, and oxidised inkstand, bearing a suitable inscription, in appreciation of his services as honorary lecturer to the class.—A valedictory banquet has been given to Mr. Hugh A. Deravin, M.B., Ch.B. Melb., of Pyramid Hill, Victoria, Australia, the residents also presenting him with an illuminated address.—Mr. Alfred J. Hamilton, L.R.C.P., L.R.C.S. Edin., of Mansfield, Victoria, Australia, has received a testimonial and purse of sovereigns from the residents of Mansfield, Jamieson, and Wood's Point, Victoria, on his leaving the district; and a complimentary banquet, presided over by the mayor of the borough, was given on April 27th last to Mr. A. E. Perkins, M.B., Ch.M. Syd., of Marrickville, near Sydney, New South Wales.

METROPOLITAN HOSPITAL SUNDAY FUND.

WE continue below our record of some of the principal amounts received at the Mansion House, the lists of which have been received at THE LANCET Office up to the time of our going to press on Thursday, when the total sum received amounted to £23,000. At the corresponding period last year the total was very nearly £31,500.

	£	s.	d.
St. John's Presbyterian Church, Forest-hill	75	14	6
New College Congregational, Avenue-road, N.W.	28	10	0
St. George's Presbyterian, Brondesbury	26	10	8
Rectory-place Congregational, Woolwich	27	0	0
St. Peter's, Vere-street	392	3	0
St. John's, Downshire-hill	43	19	4
Ilford Parish Church and Chapel of Ease	23	4	10
St. Philip's, Kensington	83	2	4
Gordon-square Catholic Apostolic Church	22	8	8
Rosslyn-hill Unitarian, Hampstead	112	1	2
St. Mark's, Hamilton-terrace	252	17	4

	£	s.	d.
Dartford Parish Church and Mission, and Christ Church and St. Albans	40	0	0
St. John's, Notting-hill	29	10	9
St. Mary, Aldermary, St. Thomas Apostle, St. Antholin, and St. John Baptist Apostle, Walbrook	88	0	0
St. Mark's, Reigate	64	10	10
Essex Church, Unitarian, Kensington	150	14	10
St. Marylebone Parish Church and Parish Chapel	217	5	8
St. Andrew's, Wells-street	147	14	6
St. Mildred's, Lee	33	2	9
Holy Trinity, Paddington	118	19	9
St. John's, Paddington	188	11	5
All Soul's, Langham-place	47	16	3
The Dutch Church, Austin Friars	92	7	8
Highgate Presbyterian Church	33	11	10
Miss Morice (further donation)	25	0	0
St. John at Hackney Parish Church	46	18	9
St. Saviour's, Denmark-park	26	9	0
St. James's, Kidbrook	121	12	6
St. Katherine's Royal Collegiate Chapel	25	12	9
St. Peter's, Dulwich Common	54	1	10
Waltham Abbey Parish Church	51	1	0
Christ Church, Lee	34	12	8
Royal Military Chapel, Wellington Barracks	103	15	7
St. Stephen's, Avenue-road, N.W.	49	0	11
St. Luke's, Chelsea Parish Church	55	11	0
St. Barnabas, Pimlico	32	16	2
St. Paul's Presbyterian, Westbourne grove	77	0	0
Park Church, Presbyterian, Highbury	33	0	0

Other amounts have been received and will be published in our next issue.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

THE ninth election of Fellows to fill the vacancies in the Council of the College under the new regulations, was held in the Library of the Royal College of Surgeons, Lincoln's-inn-Fields, on Thursday, the 1st inst., between 1.30 P.M. and 4 P.M. The result of the voting was as follows:—

	Votes.	Plumpers.
MR. EDMUND OWEN	323	28
MR. H. G. HOWSE	307	2
MR. RICKMAN J. GODLEE	312	2
MR. W. WATSON CHEYNE	290	7
DR. J. WARD COUSINS	259	9
MR. BENNETT MAY	236	6
MR. J. H. MORGAN	236	5
MR. R. CLEMENT LUCAS	225	1
SIR W. B. DALBY	173	10
MR. ANDREW CLARK	104	8
MR. GEORGE JACKSON	89	5

Mr. Howse and Dr. Ward Cousins were therefore re-elected, and Mr. Owen, Mr. Godlee, and Mr. Cheyne elected members of the Council.

609 Fellows voted by proxy, 4 votes were received too late, and 4 were found to be invalid; 46 Fellows voted in person.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The London Water Question.

ON Monday, June 28th, the House of Commons gave a second reading to the Bill of the Government to strengthen the hands of water consumers in London in seeking redress of grievances from the supplying companies. In the debate which preceded the second reading Mr. Chaplin spoke of the Bill as a more or less temporary one, pending the report of the Royal Commission on the water supply of the metropolis.

Prisons Bill.

This Bill has been withdrawn by the Home Secretary on the ground that he saw no prospect of passing it during the present session.

Burial Grounds.

The Committee of the House of Commons on burial grounds began its inquiry at Westminster on Tuesday, June 29th, when it received from Mr. Adrian, Assistant Secretary of the Local Government Board, evidence as to the state of the law with regard to burial grounds and the powers and duties of the Local Government Board in the matter.

HOUSE OF COMMONS.

THURSDAY, JUNE 24TH.

Rural Postmen and Medical Advice.

Mr. Luttrell asked the Secretary to the Treasury, as representing the Postmaster-General, whether he would take steps to supply all rural postmen with free medical attendance in the same way as postmen in towns, or, in the event of the Department being unable to grant free medical attendance where there were not sufficient postmen to warrant the employment of a medical officer, whether an allowance could be paid to rural postmen when they had to seek medical advice.—Mr. Hanbury replied that rural postmen who resided in, or started from, a town where the Department had a medical officer were entitled to free medical attendance, and those who resided more than three miles from the town could obtain advice and medicine free at the surgery, but beyond this the Postmaster-General was not prepared to go.

Rabies.

Mr. Hazell asked the President of the Board of Agriculture whether he was aware that considerable dissatisfaction was felt at the order for the muzzling of dogs in the borough and county of Leicester upon the ground that there had been no proved case of rabies in that county for several years, and that the order would cause much inconvenience to the agricultural residents; and whether, under these circumstances, he could hold out any hope of an early revocation of the order.—Mr. Walter Long replied that he was aware that some dissatisfaction had been expressed at the inclusion of any portion of Leicestershire in the area in the Midlands to which muzzling orders had been applied, but in view of the fact that two cases of rabies had been reported during the last few months, and that there had been others in adjoining counties close to the Leicestershire boundary, he felt it his duty, in the interest of the extirpation of the disease from the country as a whole, to adopt the course which had been taken. He regretted that he did not see his way to the revocation of the order as suggested.

The London Water-supply.

On the report stage of the Southwark and Vauxhall Water Bill Mr. James Stuart moved to refer the measure back to the committee which had considered it. He said that for a number of years the quantity of water which had been drawn by the Southwark and Vauxhall Water Company from the River Thames had been considerably in excess of that which they were legally entitled to take from that source, and the Thames Conservators had consequently applied for, and had obtained, an injunction to restrain the company from continuing such illegal action, which injunction they had intimated they intended to enforce. The company had accordingly brought in a Bill to authorise them to legalise their overdraft in order that they might be enabled to supply the requirements of the poorer portion of the population of South London. The measure had been opposed on the ground that other water companies, if duly authorised by Parliament, were willing to supply the district in question with water. The London County Council were willing that a temporary measure should be passed which would authorise the company to obtain the water from the Thames which would enable them to meet the demands of the locality for an efficient water-supply; but they thought that the provisions of the Bill should be restricted to maintaining the *status quo* of the company until the Royal Commission now sitting to inquire into the whole subject of the water-supply of London had reported, and should not confer upon them any new powers of a permanent character. The measure, however, went further, and directed the company to bring in a new Bill next session which would confer new permanent powers upon them. To this proposal the London County Council decidedly objected, and he now proposed that the Bill should be re-committed to the former committee in order that the objectionable clauses should be struck out, and the measure converted into a strictly temporary one, merely preserving the *status quo* and regularising the action of the company until the Royal Commission should have made their report.—Mr. Rankin, one of the members of the committee, explained that he and his colleagues had passed the Bill in its present shape because in consequence of the injunction against the company having been obtained it was necessary that such a measure should be passed in order to prevent a water famine in the south of London. The committee were desirous that the measure should be a temporary one only, and if it were sent back to them they would have no objection to amend it in that direction.—Sir F. D. Dixon-Hartland, Chairman of the Thames Conservancy Board, said that the injunction against the company was granted to take effect at the end of twelve months, the interval being allowed to enable the company to come to Parliament and legalise their action and avoid the risk of water famine. The principle upon which the Thames Conservancy proceeded was this, that there was ample water in the Thames for the whole of London, but the companies must take it in a proper way in the winter months and store it in reservoirs, not withdrawing it in the summer against the interests of navigation when the water was low. If the House re-committed the Bill now it would in all probability tend to the loss of the Bill, and for the danger of a water famine next year the House would be responsible.—Mr. Stuart Wortley assured the House that the only desire of the company was to legalise their position and to secure power to supply their customers.—Mr. Chaplin said that as President of the Local Government Board he dare not take the responsibility of action which might contribute to a water famine in South London next summer, and if the motion were pressed to a division he must vote against it.—After some further discussion Mr. Stuart asked and obtained leave to withdraw his motion.

FRIDAY, JUNE 25TH.

Boarding out Pauper Children.

Lord Edmund Talbot asked the President of the Local Government Board whether, in November, 1881, the Local Government Board decided that the boarding-out orders did not refer only to children boarded out by the guardians from the workhouse, but whenever the guardians granted out-relief to a child living with a person not legally liable for its support, that that child would come under the said orders.—Mr. T. W. Russell, who replied for the President, said that he had no doubt that the Local Government Board expressed the opinion as stated in the question with reference to the effect of the order issued in 1877 as to boarding out, but as there was some doubt on the subject the order subsequently issued in 1889 was in consequence somewhat differently worded as regards this matter.

MONDAY, JUNE 28TH.

Remarkable State of Things in Ireland.

Mr. Gerald Balfour, Chief Secretary for Ireland, said, in reply to a question by Mr. Crilly with regard to the state of affairs in the Union of Belmullet, that on May 12th Mr. Lavan, the dispensary medical officer, reported that sixteen cases of fever had occurred on the Iniskea Islands in this Union, and he attributed the cause of the outbreak to the islanders' habit of keeping cattle and sheep in their houses and having cesspools at their doors. The Local Government Board thereupon directed the medical officer to furnish weekly reports as to the progress of the sick and as to the precautions taken to prevent the spread of the disease. On May 30th he reported that the sixteen cases were those of people in good circumstances and not fit subjects for poor relief. The Board informed him that whether they were subjects for relief or not he should visit the houses and see that all necessaries were supplied and that disinfection was properly carried out. On June 3rd Mr. Lavan reported the type of fever to be very mild, that the disease appeared to be on the decline, and that he had thoroughly disinfected the houses. On June 7th he reported that, with the exception of a few people on the islands who were destitute, the rest were in fairly good circumstances, but that they laboured under the impression, which it was difficult to remove, that fever patients should be given nothing but cold water. The destitute were provided with all necessary nourishment and stimulants; and the services of two trained nurses from Dublin were requisitioned in addition to two local nurses. Three of the patients had died, and removal of the sick to the hospital on the mainland was out of the question. The trained nurses were landed on June 11th. On June 22nd the medical inspector of the Local Government Board visited the islands in company with Mr. Lavan. He stated that there were thirteen cases of fever of different kinds on the south island, but that the north island was free from fever. The inspector considered that the attendance on the nursing of the sick had been sufficient up to the present. He also attended a meeting of the board of guardians and pointed out to them that it was imperative on them to enforce measures for lime-washing, cleansing, and disinfection of all infected houses, and that the remedies must be continued until satisfactory results were attained. The guardians recognised their responsibilities as the sanitary authority, and were taking measures to comply with the inspector's recommendations. He (Mr. Balfour) was not aware of any famine on the island, nor could the outbreak of fever be attributable to any want of food.

TUESDAY, JUNE 29TH.

Corporal Punishment in Prisons.

Sir Matthew White Ridley, in answer to Mr. J. A. Pease, said that during the last six years forty-four prisoners in local prisons in the United Kingdom and twenty in convict prisons had received corporal punishment twice, and six in local prisons and seven in convict prisons had received it more than twice during the same period. Mr. Brodrick, in reply to Mr. Pease, said that during this period eighty-two prisoners in military prisons abroad received corporal punishment. One prisoner in the military prisons at home was twice corporally punished, but returns on this point from the prisons abroad had not yet been received.

WEDNESDAY, JUNE 30TH.

Plumbers' Registration Bill.

This sitting of the House was occupied with the discussion of the Plumbers' Registration Bill as amended by the Standing Committee. A motion was made to throw out the Bill, but it was rejected by 200 to 77 votes, and thereafter some progress was made with the consideration of the amendments to the clauses. Strong objection was taken in several quarters to the machinery of the Bill.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

AITKEN, WM. B., M.B., Ch.M. Glasg., has been appointed Senior Resident Surgeon to the Women's Hospital, Melbourne, Australia.

BEATTIE, ROBERT M., M.B., Ch.M. Edin., has been appointed Medical Superintendent to the Lunatic Asylum, Auckland, New Zealand.

BETHELL, A., M.R.C.S., has been appointed Medical Officer by the Bridgnorth Rural District Council.

BOWKER, ROBERT S., M.R.C.P. Lond., L.R.C.P. Edin., M.R.C.S. Eng., has been appointed an Honorary Surgeon to the Sydney Hospital, New South Wales.

COATES, J. MANDALL, M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Northern Hospital, Liverpool.

COOK, H. W. I., M.B., Ch.B. Durh., has been appointed Officer of Health for Winchelsea Shire, Victoria, and a Public Vaccinator at Birregurra, Victoria, Australia.

COX, FRED. H., M.B., Ch.M. Syd., has been appointed a Medical Officer for the Hospital at Goodooga, New South Wales.

DENNEHY, P. R., L.R.C.P. Irel., L.R.C.S. Edin., has been appointed Medical Officer for the Lismore Dispensary District.

EATON, J., M.D. Glasg., F.F.P.S. Glasg., has been re-appointed Medical Officer of Health for the Cleator Moor Sanitary District of the Whitehaven Union.

ECCLES, W. MCADAM, M.S. Lond., F.R.C.S. Eng., has been appointed Examiner in Anatomy to the Society of Apothecaries of London.

EDWARDS, H. N., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Markyate Sanitary District of the Luton Union, vice F. W. D. McGachen, resigned.

FLEETWOOD, THOS. F., M.B. Dubl., L.R.C.S. Irel., has been appointed Officer of Health for Warrnambool Town, Victoria, Australia.

FOX, HERBERT, M.B. Lond., has been appointed Junior Medical Officer (*pro. tem.*) to the Fisherton House Asylum, Salisbury.

GEE, T. ERNEST, F.R.C.P. Edin., L.R.C.S. Edin., L.S.A., F.C.S., has been appointed Honorary Anæsthetist to the Hospital for Epilepsy and Paralysis, Regent's-park.

GOODE, ARTHUR, M.B., B.S. Adel., has been appointed a Medical Officer for the Local Board of Health, Dundas, Western Australia.

GREIG, WM. C., M.B., Ch.M. Edin., has been appointed an Assistant Medical Officer for the Lunatic Asylum, Seacliff, New Zealand.

HAGENAUER, A. G., M.B., Ch.B. Melb., has been re-appointed a Medical Officer to the Women's Hospital, Melbourne, Australia.

HARRISON, WM. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer for the Destitute Poor and Aborigines at Georgetown, South Australia.

HARGREAVES, J. A., M.B., C.M. Aberd., has been re-appointed Medical Officer of Health by the Wetherby Rural District Council.

HILL, ALFRED W., M.D. Brux., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed a Member of the Central Board of Health, South Australia.

HOWARD, ARTHUR DASHWOOD, B.A. Cantab., M.D. Brux., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed District Medical Officer for the Parish of Hampton Hill.

JOHNSON, JOS. H., M.B., Ch.M. Edin., has been appointed Officer of Health for Alexandria Shire, Victoria, Australia, and a Public Vaccinator for Alexandria.

JOHNSTON, J., M.B., Ch.M. Glasg., has been appointed a Junior Medical Officer for the Lunatic Asylums Department, Victoria, Australia.

KEENAN, T. F., M.B., B.S. Durh., has been appointed Medical Officer for the Referagh Dispensary District of the Carrickmacross Union.

KELLY, HORACE G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for the Shire of Gordon, Victoria, Australia.

LOW, CHAS. W., M.B. Durh., L.R.C.P. Lond., D.P.H., M.R.C.S. Eng., has been appointed Medical Officer of Health by the East Stow Rural District Council.

MCCOMB, WM. T., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Borough of Beccles.

MOLE, HAROLD FREDERICK, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon and Senior Resident Officer at the Bristol Royal Infirmary.

MORIER, CHAS. G. D., L.K.Q.C.P. Irel., L.R.C.S. Irel., has been appointed a Medical Officer for the Destitute Poor and Aborigines at Mount Barker, South Australia.

PEARCE, F. H., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the Northern Hospital, Liverpool.

PERRY, W. D., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed a Relieving Medical Officer to the Lunatic Asylums of the Colony of New Zealand, as occasion requires, and Assistant Medical Officer for the Lunatic Asylum at Wellington, New Zealand.

PLAYER, CHAS. R., M.B., Ch.B. Melb., has been appointed a Public Vaccinator at Sunbury, Victoria, Australia.

PURSLOW, C. E., M.D. Lond., M.R.C.P. Lond., has been appointed Ingleby Examiner, Mason College, Birmingham, for the ensuing year.

RENDLE, RICHARD, F.R.C.S. Eng., has been appointed House Surgeon to the Knowle Hospital, Freemantle, Western Australia.

RITCHIE, ROBERT H., M.B., Ch.B. Melb., has been appointed a Surgeon to the Horsham Hospital, Victoria, Australia.

RUTTER, G. F., M.B., Ch.M. Syd., has been appointed Registrar and Pathologist for the Sydney Hospital, New South Wales.

SCOTT, JOHN A., M.B., Ch.M. Edin., has been appointed Assistant Resident Surgeon to the Women's Hospital, Melbourne, Australia.

STEPHENS, L. E. W., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Havant Union, vice T. P. Stephens.

TALBOT, ALFRED G., M.B., M.S. Edin., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed a Resident Surgeon for the Nelson Hospital, New Zealand.

TAYLOR, P. C. P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed as Surgeon and Agent to the Admiralty for the Hastings and St. Leonards District.

WATSON, GEORGE G., M.B., Ch.M. Edin., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator at Warracknabeal, Victoria, Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

BOROUGH OF SHREWSBURY.—Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Guildhall, Shrewsbury.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Assistant Physician.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of the House Surgeon £100 per annum, with furnished apartments, board, and washing. That of the Assistant House Surgeon £50 per annum, with furnished apartments, board, and washing.

DISTRICT ASYLUM, Mullingar.—Medical Woman as Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, furnished apartments, attendance, and laundry.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Board, residence, and washing provided.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Senior House Surgeon for six months. Salary at the rate of £60 per annum, with board, lodging, and washing in the hospital. Also Junior House Surgeon for six months. Board, lodging, and washing in the hospital.

HULL ROYAL INFIRMARY.—Junior Assistant House Surgeon for one year. Salary £40, with board and lodging.

LONDON HOSPITAL MEDICAL COLLEGE, Turner-street, Mile-end, E.—Demonstrator of Biology. Salary £75 per annum.—Bacteriologist to the Hospital, and Lecturer on Bacteriology and Pathological Chemistry.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Residence, board, and lodging are provided, and an honorarium given at the termination of the appointment.

LONDON THROAT HOSPITAL, 204, Great Portland-street.—Two Assistant Surgeons.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, unmarried, for one year. Salary £150 per annum, with board and residence.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

PLYMOUTH BOROUGH ASYLUM.—Locum Tenens from July 8th to 23rd. Terms three guineas weekly, with board, &c. Applications to Dr. Davis, Blackadon, Ivybridge.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—House Surgeon, unmarried. Salary £80 per annum, advancing £10 per year up to £100, with residence, board and washing.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE, London, E.C.—Demonstrator and Assistant Demonstrator of Chemistry.

ST. GEORGE, HANOVER-SQUARE, PROVIDENT DISPENSARY, Little Grosvenor-street, W.—Resident Medical Officer. Salary £100, with allowances, about £80, and residence at the Dispensary.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Assistant Lectureship on Chemistry and Physics. Salary £100, rising to £125.

TOTTENHAM HOSPITAL.—Assistant Surgeon.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Assistant House Surgeon, for six months. Board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

APPERLY.—On June 24th, at Redhill, the wife of Herbert Apperly, L.D.S. R.C.S. Eng., of Chandos-street, Cavendish-square, W., of a son.

BOWMAN.—On June 21st, at Ulverston, the wife of R. O. Bowman, M.D., of a son.

EDRIDGE-GREEN.—On June 23rd, at Ravensfield-villas, Hendon, N.W., the wife of F. W. Edridge-Green, M.D., F.R.C.S., of a son.

FOTHERINGHAM.—On June 23rd, at Skelmorlie, Ayrshire, the wife of M. B. Fotheringham, of a son.

HOFFMAN.—On June 21st, at Goddenden, Farnborough, Kent, the wife of Arthur H. Hoffman, L.R.C.P., L.R.C.S. Edin., of a daughter.

VISICK.—On June 26th, at Brownswood-park, N., the wife of Hedley C. Visick, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

DRURY—RITCHIE.—On June 19th, at St. Anne's, Wandsworth, by the Rev. Norman Campbell, W. H. Drury, L.R.C.P. Edin., &c., of Otley, Yorkshire, to Maie, third daughter of the late Dr. Ritchie, Otley, and Mrs. Ritchie, Wandsworth.

HOOPER—WILLS.—On June 28th, at All Saints', Highgate, George H. Hooper, M.R.C.S., L.R.C.P., to Kate Haydon, youngest daughter of T. Haydon Wills, of Highgate.

WILSON—WHITE.—On June 24th, at All Saints, Kenley, Surrey, Norman O. Wilson, F.R.C.S., of Kingston-hill, to Margaret Louise, fifth daughter of George T. White, of Malvern, Kenley.

DEATHS.

DORAN.—On June 23rd, at Mill-road, New Brompton, Kent, James Doran, M.D., late 2nd Battalion 60th Royal Rifles.

ENGLAND.—On June 25th, at Pencester-road, Dover, Richard Edward England, M.D.

HOOD.—On June 25th, at Laleston Cottage, near Bridgend, Archibald Hood, M.B., aged 36 years.

LEWIS.—On June 19th, at West Malling, Charles Lewis, M.R.C.S., L.S.A., formerly of Sandgate-road, Folkestone, in his 51st year.

READE.—On June 23rd, at Sunnylands, Park-gardens, Bath, Surgeon-General Herbert Taylor Reade, C.B., V.C., Hon. Surgeon to the Queen.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 1st, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb	Solar Radia in Vacuo	Maximum Temp. Shade.	Min Temp	Rainfall.	Remarks at 8.30 A.M.
June 25	30·02	N.E.	58	57	73	65	57	0·02	Overcast
,, 26	30·03	S.E.	60	59	118	74	57	...	Overcast
,, 27	29·95	E.	63	60	105	71	60	0·21	Cloudy
,, 28	29·91	S.W.	68	64	124	79	61	0·05	Cloudy
,, 29	29·91	S.W.	65	63	127	77	63	...	Overcast
,, 30	29·99	W.	68	60	117	80	60	...	Fine
July 1	29·99	S.E.	66	62	116	73	62	...	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (10th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (7th).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Lewers and others. Papers:—Dr. Giles and Dr. Maclean: Two Unusual Cases of Tubal Gestation; he one causing Chronic Intestinal Obstruction and associated with Hæmatosalpinx of the Non-gravid Tube, the other simulating Retroversion of the Gravid Uterus.—Dr. Lewers: A Case of Primary Sarcoma of the Body of the Uterus (Deciduoma Malignum), in a patient twenty-four years of age, treated by Vaginal Hysterectomy.

THURSDAY (8th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimen:—Mr. S. Keith: Pyosalpinx complicated by a Uterine Fibroid. Papers: Prof. H. Treub: The Mechanism of Uterine Inversion.—Dr. Snow: Escharotics in the Treatment of Uterine Cancer.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (5th).—ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.

TUESDAY (6th).—ST. GEORGE'S HOSPITAL MEDICAL SCHOOL (Hyde-park-corner, S.W.).—5 P.M. Dr. P. Manson: Diseases of Tropical Climates.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Horsley: Clinical Demonstration.

WEDNESDAY (7th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Robinson: Obstetrical and Gynæcological Cases.

THURSDAY (8th).—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square).—5.30 P.M. Dr. Morgan Dockrell: Syphilides.

FRIDAY (9th).—ST. GEORGE'S HOSPITAL MEDICAL SCHOOL (Hyde-park-corner, S.W.).—5 P.M. Dr. P. Manson: Diseases of Tropical Climates.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Ballance: Surgery of the Nervous System.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1897, which was completed with the issue of June 26th, is given in this number of THE LANCET. It is intended, in future, to include the Index and Title page for each past half-yearly volume in the first number of the succeeding volume, as in the present case, instead of in the last number of the volume itself, as heretofore.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1897 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers will also be ready in a few days. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

PELLAGRA?

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly inform me if the case described below is one of pellagra? Owing to the fact that my interpreter was not particularly well up in either English or modern Greek, I was unable to learn as much as I wished about the history, &c., of the patient.

A healthy-looking woman brought her child, a little girl aged four years, on board for treatment and showed me a slightly elevated flat patch a little below and behind the left ear. The diseased part was pale in colour, and, I think, confined to the skin. It appeared to be painless, and contained about a dozen apertures filled with hard, yellowish matter. The whole patch was about an inch in diameter, and each orifice about one-tenth of an inch. The mother stated that the child, although four years old, could neither speak nor walk; that the illness had been of only eight months' duration; that many other patches like those described had appeared on the head and face, and after a time had disappeared. I examined one cicatrix on the bridge of the nose; the colour was like the surrounding parts, with which it was also level, but it was dotted all over with small pin-point punctures, from which there was no discharge. Beyond the facts mentioned above this child appeared to be in perfect health. Skin, nails, and glands appeared normal. Although the child could not speak or walk she did not seem to be in the least idiotic.

I have since met with another case of the same kind at another village in Crete, but this time the child spoke and walked.

I am, Sirs, yours faithfully,

Crete, June 23rd, 1897. VAGAMUNDO.

"A GOOD WAY BACK."

To the Editors of THE LANCET.

SIRS,—If your correspondent, Mr. W. T. Lynn, writing from Blackheath, will refer to vol. ii. of THE LANCET, 1832 and 1833, pp. 186 and 187, he will not only find a biographical sketch of the life of his father's uncle (William Lynn), but also a likeness of him, which, if as good as that of Sir Charles Bell in the same volume (whose lectures my late father attended, and he told me that it was a first rate likeness), must be a very good one.

I am, Sirs, yours faithfully,

Allendale, Northumberland, June 26th, 1897. GEORGE ARNISON.

Practitioner.—1. It is now believed by the best authorities that the poison of scarlet fever when conveyed to a puerperal patient produces scarlet fever and not puerperal septicæmia. "Practitioner" speaks, however, of "any infectious disease." We should say that it would be highly dangerous to attend confinements while attending cases of erysipelas or diphtheria. Though we believe satisfactory disinfection of the attendant to be perfectly possible, it would involve much care, trouble, and time to make it really efficacious. Practically, therefore, it is better not to attend lying-in cases when attending such infectious cases. 2. There are several oils of erigeron. We presume our correspondent refers to Erigeron Canadense, or Canadian flea-bane. This has been used as an internal hæmostatic. Our correspondent should consult the "Real-Lexicon der Medicinisch-Pharmaceutischen Naturgeschichte und Rohwaarenkunde" and the Proceedings of the American Pharmaceutical Association (Vol. XIV.). The physiological action is that of oil of turpentine, but less irritant. 3. There is no objection at all to the dilution. A mixture of equal parts by weight of glycerine and water is probably the best preservative known for vaccine lymph.

GOOD ADVICE.

WE extract the following from the *Canadian Journal of Medicine and Surgery* for June, 1897. The verses are in the nature of a suggestion to a brother editor in his treatment of a recent voluminous correspondence, but although topical their wisdom is of universal application. The most usual blemish in the communications which reach us is diffuseness, and although we do not hold in its entirety with the editorial "boiling down" recommended in the verses, without some such process many useful papers would not see the light. As it is, diffuseness remains by far the most frequent cause of rejection.

If you've got a thought that's happy,
Boil it down;
Make it short, and crisp, and snappy,—
Boil it down.
When your brain its coin has minted,
Down the page your pen has sprinted,
If you want your effort printed,
Boil it down.
Take out every surplus letter,—
Boil it down.
Fewer syllables the better,—
Boil it down.
Make your meaning plain,—explain it
So we'll know, not merely guess it;
Then, my friend, ere you address it,
Boil it down.
Boil out all the extra trimmings,—
Boil it down;
Skim it well, then skim the trimmings,
Boil it down.
When you're sure 'twould be a sin to
Cut another sentence into,
Send it on, and *we'll* begin to
Boil it down.

F. K.—The climate is extreme, summer being bright and hot and winter long and cold. The island is mountainous, well-timbered, and salubrious, but a very delicate person should not be sent there, as the comforts of life may not be easy to obtain and the conditions of life are necessarily a little rough. We know of no book giving exact information, but think our correspondent might write to one of the medical men settled there.

THE TREATMENT OF WRITER'S CRAMP.

To the Editors of THE LANCET.

SIRS,—Would any of your readers be good enough to give me hints as to treatment which has been found beneficial in "writers' cramp" beyond that of rest and general hygiene?

I am, Sirs, yours truly,

Beyrout, Syria, June 21st, 1897. SCRIBO, M.D.

"AN APPLIANCE FOR THE DEAF."

IN reply to "J. W. W." in THE LANCET of June 26th, Messrs. W. H. Bailey and Son, of 38, Oxford street, write to say that they manufacture an ear trumpet of the nature indicated by our correspondent which, though not made of aluminium, is very light. The appliance leaves the hands quite free.

WANTED SUGGESTIONS FOR TREATMENT.

To the Editors of THE LANCET.

SIRS,—I have a case of progressive muscular atrophy which has, so far, only attacked the limbs of my patient, who is forty-five years of age, and otherwise in good health. I have been using subcutaneous injections of strychnine, which, while they appear to have stopped the disease attacking the trunk, have in no way prevented the gradual but steady loss of power in his limbs. Can any of your readers suggest anything further? I am, Sirs, yours faithfully,

June 30th, 1897. F.R.C.S.

L.R.C.S. will find in "Hygiene for Beginners" by Reynolds, and published by Messrs. Macmillan and Co., Limited, the kind of information he requires.

THE GROWING INCREASE IN THE USE OF DRUGS IN THE UNITED STATES.

"IN America," writes a correspondent, "there are more drugs taken than in any other part of the world. The consumption of patent and proprietary medicines is enormous. Happily for the health of the inhabitants at large many of these are more or less harmless, but of late years a most alarming increase has occurred in the use of deleterious drugs. Opium, cocaine, and chloroform are stated by those competent to speak with authority to be used on a very large scale. The habit is increasing with females at a much more rapid rate than with males, and is giving rise to alarm throughout the country. The fault for this state of affairs is by many laid at the door of the medical man. It is asserted that it is through his prescriptions that the victims of the habit first acquired the taste which eventually developed into a perverted appetite. On the other hand, the majority of physicians strenuously deny that such is the case now, although they admit the fact that sufficient care was not taken in this respect in bygone days. At the present time among all practitioners of experience great discretion in prescribing is observed, and a wise intolerance has grown up of the careless methods of the past, when the harmful effects that might result had not become so exactly ascertained or so widely recognised. A cure is shunned which may be followed by something far worse than the original disease, and except when such treatment is absolutely indicated the use of powerful opiates is avoided. Nevertheless, the disastrous truth remains that narcotism in all forms is greatly on the increase, and if the medical profession are not to be held accountable for spreading the evil the cause must be looked for in some other direction. This cause, probably lies between the general public and the laxity of the laws in reference to the sale of dangerous drugs. With the general public it is the case of a little knowledge. Everyone in these days knows something of the action of many drugs, particularly of the dangerous ones, and if a person suffers from a pain or some slight complaint, advice is quickly given by friends to try a remedy which has relieved them in a like situation. As for the drug stores, the law prohibiting the sale of dangerous drugs is practically a dead letter, so easily can it be evaded; and there are few shops where almost any poison cannot be bought without the authority of a physician. Some of the proprietary medicines, too, contain anodynes and intoxicants, so that it is possible for the morphine habit, liquor habit, or cocaine habit to be developed unconsciously. This is a danger to which children are especially subjected. Many of the soothing compounds contain opium, and a latent tendency can be instilled into a child which may break out into a strong passion at the first legitimate contact with the drug. As in all countries, it is the very poor and the very rich who are most addicted to the use of drugs and intoxicants. The native-born American woman is from her mode of life and habits more highly strung and neurotic, probably, than women of any other race, and in consequence falls an easier prey to the slavery of narcotism."

Tibia.—If the assistant's agreement is so worded, practice at a future date can be barred within a reasonable radius. It is a matter of the wording of the agreement, and the assistance of a solicitor should be obtained.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers assist me to find an institution to receive the following case for a small payment of £13 per annum—a woman, aged forty-one years, daughter of a tradesman, who has been in an institution for unmanageable women for the past two years, but has been discharged as she is so obstreperous. She fights with the inmates and incites them to mischief, and cannot be controlled where she is. Her health is excellent, and she can do any amount of hard work. I am, Sirs, yours faithfully,

W. H. WILLIAMS.

The Cedars, Sherborne, Dorset, June 27th, 1897.

COLONIAL REGISTRATION.

To the Editors of THE LANCET.

SIRS,—Is it necessary or advisable to become registered as a "colonial practitioner" previously to going out to South Africa (with special reference to the country about Kimberley, Mafeking, and Buluwayo)? If so, will you be good enough to give me such information as to how and where I am to do so. I have already written to the General Medical Council Office, but they are unable to supply any information there.

I am, Sirs, faithfully yours,

June 29th, 1897. C. F. H. W.

*** Persons desirous of practising in Kimberley and Mafeking should make written application to the Secretary, Colonial Medical Council, Colonial Secretary's Office, Capetown. In the case of Buluwayo written application should be made to the Administrator, Salisbury, Rhodesia. The applications should be accompanied by the original diplomas, together with sworn declarations of identity. The licence to practise in either colony is £5.—ED. L.

Catheter.—The best lubricant for gum elastic catheters is a solution of perchloride of mercury in glycerine 1 in 1000. To keep them aseptic when not in use they should be stored in a jar containing either a 1 in 1000 solution of perchloride or a 1 in 20 solution of formalin, as bought. The commercial solution of formalin is a 40 per cent. solution. Even with these solutions, however, the catheters do not last long.

A SALUBRIOUS STATION.

ALTHOUGH it is not clear whether the *νησοι μακαρων*, or Islands of the Blest, of the ancients were the Cape Verde or the Canaries, the claim of the latter to rank as one of the most salubrious portions of the world receives strong confirmation from the vital statistics of the Spanish troops who are fortunate enough to be stationed there. It would probably be difficult to excel, or even to equal, the following figures taken from the last annual report (the rates for the entire army are shown in brackets):—Admissions to hospital, 288·75 per 1000 of strength (443 82, not including slight cases); typhoid fever, *nil* (6 96); pulmonary tuberculosis, 2 84 (7 42); pneumonia, *nil* (12 10); paludism, *nil* (15 57); syphilis, 0 95 (11·36); venereal affections, 55·60 (71·30); small-pox, *nil* (3 09); death-rate, 0 96 (8 41).

H. A. C. is entitled to proper payment for his services. There is no onus upon the principal in question to call, although to do so would be usual.

COMMITTAL OF A QUACK.

AN inquiry into the circumstances attending the death of Miss Elizabeth Blacker, of Grange Farm, near York, has recently been held by the York district coroner, with the result that a quack has been committed for trial in custody. The evidence at the inquest showed that the deceased was the victim of malignant disease of the breast, and that she had been treated by a person of the name of F. C. Hudson. The jury found that death was due to poisoning by arsenic absorbed into the system from a plaster applied by Hudson. Hudson, who gave evidence, said his name was W. L. Watson, and gave an address in the Adelphi, London. He was, as we have said, taken into custody and committed for trial.

P. C. S.—The communication loses its authority by not having the name and address of the writer appended.

ERRATUM.—In our issue of June 12th we announced that Mr. Edwin Arthur Gibson, M.B., C.M., had been admitted a Fellow of the Faculty of Physicians and Surgeons of Glasgow. The gentleman so elected was Mr. John R. Gibson.

During the week marked copies of the following newspapers have been received:—*Devon Gazette, Derby Daily Telegraph, New Zealand Herald, South Wales Daily News, Scotsman, Dundee Courier, North Eastern Daily Gazette, North Devon Herald, Birmingham Gazette, Newcastle Journal, Times of India, Pioneer Mail, Sheffield Daily Telegraph, Builder, Leicester Post, Sussex Daily News, Bradford Observer, Leek Times, Pulman's Weekly News, Architect, Liverpool Daily Post, Western Morning News, Leamington Advertiser, Manchester Courier, Bristol Mercury, Citizen, Yorkshire Post, Coventry Times, Lowestoft Standard, Huddersfield Examiner, Leeds Mercury, Worcester Daily Times, Coalville Times, Darwen News, Sanitary Record, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, City Press, Mining Journal, Local Government Chronicle, Rangoon Times, Local Government Journal, Australian Medical Gazette, Surrey Advertiser, Newbury Weekly News, Royal Cornwall Gazette, Durham City Advertiser, Ormskirk Advertiser, Kelso Mail, Glasgow Evening News, Ilfracombe Gazette and Observer, New York Herald (Paris), West Briton Advertiser, Le Temps (Paris), Weekly Sun, Walsall Advertiser, Western Mail, Jackson's Oxford Journal, Heywood Advertiser, Garston Weekly News, Chesham Examiner, &c., &c.*

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Y.—Yorkshire College, Leeds, Secretary of.

Letters, each with enclosure, are also acknowledged rom—

A.—Agamemnon, Lond.; Alpha, Lond.; Ajax, Lond.; Aloes, Lond.; Dr. G. A. Abrath, Newcastle-on-Tyne; Mr. R. R. Anderson, Fern Hill.

B.—Mr. R. Baker, Lond.; Messrs. Benger and Co., Manchester; Messrs. Blondeau et Cie, Lond.; Borough of Brighouse, Secretary of; Dr. A. E. Bridger, Lond.; Mr. W. Bernard, Londonderry; Borough of Worthing, Town Clerk of; Dr. A. Bronner, Bradford; Dr. J. M. Barbour, Lond.; Mrs. G. Buxey, Southampton; Messrs. W. H. Bailey and Son, Lond.; Mr. A. Burgess, Lincoln; B., Lond.; Dr. T. C. Booth, Urmston; Dr. W. H. Bishop, Wylam-on-Tyne; Messrs. Brady and Martin, Newcastle-on-Tyne.

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X.—X. Y. Z., Lond.

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